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SPECIAL ISSUE: THE FACULTY IN THE NEW MILLENNIUM

State Policies to Improve Undergraduate Teaching: Administrator and Faculty Responses
Carol L. Colbeck

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James S. Fairweather

Resolving the Dispute: Teaching is Academe's Core Value
David W. Leslie

Women of Color in Academe: Living with Multiple Marginality
Caroline Sotello Viernes Turner

Preparing the Next Generation of Faculty: Graduate School as Socialization to the Academic Career
Ann E. Austin

Reconfiguring Faculty Roles for Virtual Settings
Karen Paulson

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Jeroen Huisman, Egbert de Weert, and Jeroen Bartelse

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JHE January/February 2002
Vol 73, No 1

The Journal of Higher Education

10/7/02

JAMES S FAIRWEATHER and LEONARD L BAIRD 1

Introduction to a Special *JHE* Issue. The Faculty in the New Millennium

CAROL L COLBECK 3

State Policies to Improve Undergraduate Teaching: Administrator and Faculty Responses

This study analyzed implementation of mandate and inducement policies to improve undergraduate instruction Ohio legislation mandated that faculty increase teaching time by ten percent Tennessee's performance funding initiative provided incentives to institutions meeting state standards Faculty and administrator responses to these policies were compared at a research and a comprehensive university in each state

JAMES S FAIRWEATHER 26

The Mythologies of Faculty Productivity: Implications for Institutional Policy and Decision Making

A principal belief embedded in promotion and tenure and in annual review decisions is that faculty members should and can be simultaneously productive in teaching and research This article uses national survey data to estimate by discipline and type of institution the percentage of the faculty who meet this standard

DAVID W LESLIE 49

Resolving the Dispute: Teaching is Academe's Core Value

Analysis of data from the 1993 National Survey of Postsecondary Faculty shows that faculty value teaching over research At the same time, the explicit reward structure of academe favors research and publication, rewarding "productivity" in these arenas with money and status Implications of this disconnect between values and rewards for faculty careers, for policy, and for practice are examined

CAROLINE SOTELLO VIERNES TURNER 74

Women of Color in Academe: Living with Multiple Marginality

Faculty women of color experience multiple marginality, characterized by lived contradiction and ambiguous empowerment Their lives are often invisible, hidden within studies that either examine experiences of women faculty or faculty of color Recommendations to affirm, validate, and value contributions by faculty women of color emerge from an analysis of interviews and recent literature

ANN E AUSTIN 94

**Preparing the Next Generation of Faculty:
Graduate School as Socialization to the Academic Career**

Based on a four-year, qualitative study of graduate students, the article discusses graduate student development, students' perceptions of the academic career, and graduate students' suggestions for improving graduate socialization experiences The article concludes with recommendations and policy questions for faculty advisors, chairpersons, teaching assistant supervisors, and graduate deans

KAREN PAULSON 123

Reconfiguring Faculty Roles for Virtual Settings

Unbundling the faculty instructional role is a useful concept for describing a variety of institutions Faculty and administrators can use unbundling to compare costs of instruction under different scenarios, distribute workloads to increase effectiveness and efficiency and, as part of a larger strategic process, to reevaluate instructional delivery

JEROEN HUISMAN, EGBERT DE WEERT
and JEROEN BARTELSE 141

**Academic Careers from a European Perspective:
The Declining Desirability of the Faculty Position**

This study describes and analyzes the developments and state of the art with respect to the academic career in a number of European countries (The Netherlands, Germany, United Kingdom, and Sweden) It focuses on the position of PhD students and 'advanced' academics In the comparative analysis we discuss the common developments, policies, problems, and possible solutions

REVIEW ESSAYS

WILLIAM G TIERNEY 161

Interpreting Academic Identities. Reality and Fiction on Campus
Review of *Ravelstein,* by Saul Bellow, *The Human Stain,*
by Philip Roth, and *Blue Angel,* by Francine Prose

JAMES L BESS 173

A Sanctuary of Their Own Intellectual Refugees in the Academy,
by Raphael Sassower

BOOK REVIEWS

The Department Chair's Role in Developing New Faculty into Teachers and Scholars, by Estela Mara Bensimon, Kelly Ward, and Karla Sanders
REVIEWED BY MARY DEANE SORCINELLI 179

Evaluating, Improving, and Judging Faculty Performance in Two-Year Colleges, by Richard I Miller, Charles Finley, and Candace Shedd Vancko
REVIEWED BY JON F WERGIN 181

Teaching Working Class, edited by Sherry Lee Linkon
REVIEWED BY ANNE-MARIE NUÑEZ 183

Advice for New Faculty Members Nihil Nimus, by Robert Boice
REVIEWED BY JOHN A CENTRA 186

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The Faculty in the New Millennium

Introduction to a Special *JHE* Issue

This special issue explores the changing nature of postsecondary education faculty and their work as we enter the next millennium Societal shifts affecting or potentially affecting academic work—diversity, technology, and globalization—comprise one set of topics in this issue Another set of topics seems more traditional in focus but has been recast here in interesting and potentially quite different ways than previously examined Particularly relevant are the evolution toward more directive state (and institutional) policies about faculty work, the changing nature of faculty work and how it compares with emerging institutional and societal needs, preparing new faculty for the new millennium, and understanding faculty communities and how they affect faculty work

In this volume Colbeck uses qualitative data collected over three years from institutions in the states of Tennessee and Ohio to examine the effects of state policies meant to encourage faculty commitment to teaching She describes how these policies actually affect (or do not affect) faculty work and tells us why they work (or do not) Fairweather uses national survey data to examine the mythologies of faculty work and how they affect teaching and research He employs a promotion-and-tenure type of decision-making model in this analysis, paying particular attention to the commonly held belief that faculty can (and are) simultaneously productive in teaching and research Leslie uses national survey data to describe the values held by the faculty in various types of institutions and disciplines, using Burton Clark's treatise on disciplinary and institutional communities as a guide Leslie pays particular attention to

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forces pushing for homogeneity (e.g., status, scholarship) versus the very real differences among different disciplines, genders, and races within the faculty at each college campus. Turner uses extensive qualitative data and personal narratives to describe the conflicting pressures facing faculty women of color. Turner contrasts the apparently enviable position in the external labor market (high demand, low supply) with the often less enviable internal labor market pressures to focus on work potentially harmful to career development, that is, service- and teaching-related work in an era when research counts the most. Austin uses longitudinal qualitative data to examine the growing disparity between graduate training and early professional experiences, on the one hand, and the likely job demands (and institutional locations) most new faculty will actually confront. Paulson draws on her recent experience in helping develop academic programs for the Western Governors' University to discuss the nature of faculty work in virtual universities and the implications for traditional and nontraditional faculty roles. Her lessons for how traditional colleges and universities should configure the delivery of virtual courses is particularly helpful (and sobering). Finally Huisman, de Weert, and Bartelse bring an international comparative perspective to the study of academic labor markets. They demonstrate that many European countries today find it difficult to attract young people into the professoriate, which creates quite a different dynamic than we find in the United States.

Each article in this volume is consistent with the best scholarly traditions. Each author's work is steeped in empirical research and the literature, although the methods and forms of presentation differ. What sets these works apart is their collective intent to bring academic leaders and policymakers into the conversation about the meaning of these research findings for policy and practice. It is the intent of both the editorial staff of the *Journal of Higher Education* and the authors that the works contained in this special edition help academic administrators prepare their departments and institutions for the future.

James S. Fairweather
Chair, Editorial Board
The Journal of Higher Education

Leonard L. Baird
Editor
The Journal of Higher Education

Carol L. Colbeck

State Policies to Improve Undergraduate Teaching

Administrator and Faculty Responses

Although many individual colleges and universities are giving renewed attention to undergraduate instruction, many state legislatures remain concerned about institutional commitment to teaching They have targeted faculty work and faculty productivity, especially with respect to teaching Legislative concern about improving instruction has taken different forms in different states Recently enacted state policies include mandated post-tenure review in Florida (Haworth, 1996), the faculty workload mandate in Ohio that requires faculty to increase the time spent on teaching (Cage, 1995), more stringent workload reporting requirements in Maryland (Presley & Engelbride, 1998), and policies relating institutional funding to performance indicators in Tennessee, South Carolina, and several other states (Carnevale, Johnson, & Edwards, 1998)

Different policies targeting teaching and learning are likely to have varying effects, especially as the policies are mediated through very different types of two- and four-year institutional environments (Jones & Ewell, 1993) The purpose of this study is to examine the effects of two state policies with the same goal improving undergraduate instruction and learning Most previous case study research focused primarily on the implementation of a single policy in a single institution or type of institution within a single state For example, recently scholars analyzed

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Carol L Colbeck is an associate professor of higher education and senior research associate in the Center for the Study of Higher Education at The Pennsylvania State University

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the implementation of out-of-state admissions restrictions in North Carolina (Frost, Hearn, & Marine, 1997), stringent workload reporting requirements in Maryland (Presley & Englebride, 1998), and a remedial education initiative in Oklahoma (Mills, 1998) A few studies, including Shaw's (1997) investigation, compared implementation of different state policies addressing the same issue (remedial education) within several institutions of the same type (urban community colleges)

This study investigated the effects of policies designed to improve the quality of undergraduate instruction at two types of institutions in two states The Ohio faculty workload mandate specifies that faculty should teach 10% more from 1995 onward than they had in 1990 The aim of Tennessee's twenty-year old performance funding initiative is to provide incentives to universities meeting state higher education standards The study compared and contrasted faculty and administrator responses to these mandate and inducement policies at a major public research university and a regional public comprehensive university in each state

Theoretical Perspectives on Policy Implementation

The conceptual framework for this study, shown in Figure 1, integrates literatures on policy instruments and policy implementation

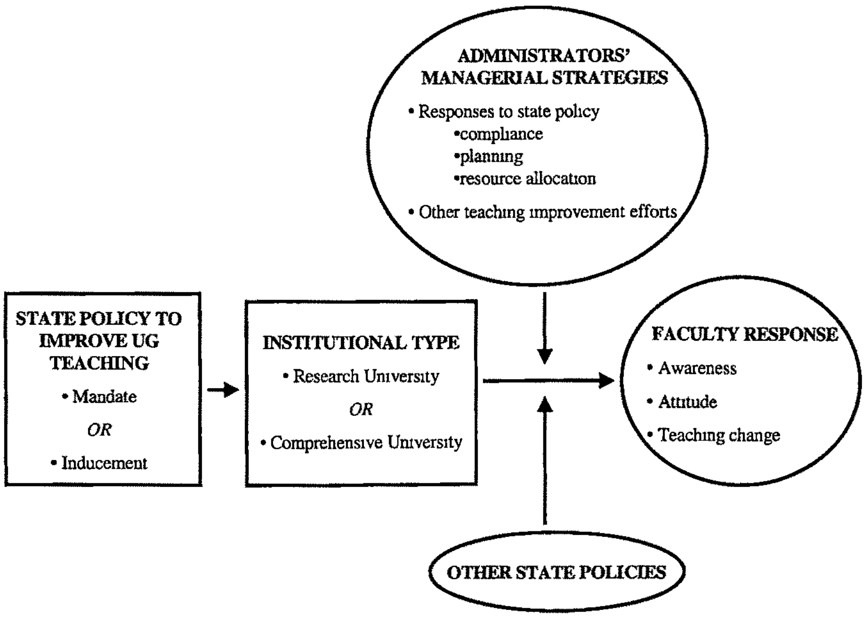

FIG 1 Administrators and Faculty Members' Responses to State Policies

Alternative Policy Instruments

McDonnell and Elmore (1987) provide a useful framework for investigating the effects of different state policies on education efforts in public universities and colleges *Mandates,* such as Ohio's workload requirement, require behavior consistent with prescribed rules *Inducements,* such as Tennessee's performance funding initiative, offer money in return for actions consistent with rules State investment in new buildings or technology systems are examples of *capacity-building* instruments, which invest in the development of material, intellectual, or human resources *System-changing* instruments transfer authority from one agency or set of agencies to another, such as when formal governance authority is granted to a coordinating board over all of a state's public higher education institutions (Marcus, 1997) The current analysis compares administrators' and faculty members' responses to mandates and inducements

Mandates are often intended to benefit either specific disadvantaged groups or the community as a whole A mandate works best when the targeted implementers believe the policy is right, fitting, and morally appropriate (Bardach, 1977) In most cases, however, mandates require enforcement Enforcement is costly both to the state and to institutions that must either comply or find ways to avoid or change mandates As McDonnell and Elmore note, "The level of enforcement which the initiating government is willing to pay for is a key determinant of the level of compliance it can expect" (McDonnell & Elmore, 1987, p 4) Mandates assume that the targeted institutions or individuals should engage in the prescribed behavior, are capable of doing so, but will not engage consistently in the behavior without the enforced mandate A mandate is a relatively inflexible and blunt policy instrument Its use often leads to reduced motivation to exceed the minimum standards set by the policy (McDonnell & Elmore, 1987) or to outright resistance (Jones & Ewell, 1993)

Inducements are designed to help targeted institutions produce services or actions of value An inducement policy typically succeeds when the values and preferences of the implementers are consistent with those of the policymakers, and when the implementing institutions already have the capacity to produce the desired outcome Inducements, or incentive systems, shift much of the burden of proving satisfactory performance from the state to the institutions The state determines and codifies measures of adequate performance, and institutions submit their proofs and are rewarded accordingly (Bardach, 1977) Inducements assume that institutions may vary in their immediate capacity to produce the desired services or products, they either have capacity already, or will be easily able to acquire the capacity with the monetary incentive

In addition, inducements assume that the desired services or products would not be produced consistently without monetary incentives Problems of implementation include the amount of variation between different institutions the state should tolerate (McDonnell & Elmore, 1987) and the challenge of devising suitable measures for outcomes of intangible services such as teaching (Bardach, 1977)

Previous Research on Policy Implementation

Studies of policy implementation at the federal level show the importance of focusing on individuals who actually enact policy as they make decisions daily about how to interact with clients or students (Pressman & Wildavsky, 1973, Weathersley & Lipsky, 1977) The implementation of policy may differ substantially from the intentions of the original policymakers because of the decisions made by what Weathersley and Lipsky (1977) call "street level bureaucrats" Understanding the process of policy implementation depends on understanding the beliefs, motivation, and capacity of the individuals who put the policies into practice on a daily basis as they conduct their work (McLaughlin, 1987) For policies designed to improve undergraduate education, faculty members are the street-level bureaucrats who make daily decisions about curriculum, time allocation, and instructional practices that determine the quality of students' learning experiences

The motivation and capacity of individuals to implement any one specific policy are influenced by other conditions in their workplace (McLaughlin, 1987) These conditions may include the existence of other state policies affecting higher education, differing institutional missions and expectations, and the strategies administrators use to implement or circumvent state policies Over time, states enact different policies, each designed to address a specific need. In the aggregate, these policies may place conflicting pressures on colleges and universities (Jones & Ewell, 1993) The ways policies are implemented varies by the context of each institution (Mills, 1998) and institution type (Jones & Ewell, 1993) Typically, faculty members employed at state flagship research universities are expected to produce more published research while faculty at regional comprehensive universities are expected to teach more classes and more students (Ruscio, 1987) Layers of management may intervene between the policy and the faculty who must implement the policy (Jones & Ewell, 1993) In particular, the strategies administrators develop in response to a specific state policy, including compliance methods, planning, and resource allocation, may influence faculty members' awareness of and attitude about the policy

Research Purposes

Based on this policy implementation framework, I first examined the managerial strategies administrators employed in responding to mandate or inducement policies designed to improve undergraduate education Second, I analyzed how other state policies influenced implementation of the mandate and inducement policies The third question focused on how state policies and consequent administrators' strategies affected faculty efforts to improve instruction Finally, I examined the similarities and differences in managerial strategies and faculty responses across institutional types to the two different policies designed to improve undergraduate education

Research Design

Qualitative case studies were conducted during 1997 at two public flagship research universities (Ohio State University and the University of Tennessee, Knoxville) and two regional comprehensive universities (Youngstown State University and Tennessee Technological University) to explore administrators' and faculty members' responses to the Ohio faculty workload mandate and the Tennessee performance funding initiative Research teams composed of one faculty member and one graduate research assistant conducted a total of 170 interviews with administrators and faculty at the four universities They interviewed the chief academic officer and other central administrators with responsibilities for undergraduate education Each team also interviewed faculty, chairs, and deans from four departments selected for disciplinary variation according to Biglan's (1973) classification The departments included Business Management (soft-applied), English and/or Romance Languages (soft-pure), Engineering (hard-applied), and Physics (hard-pure) Table 1 provides details about the interview sample by university and position Department chairs were asked to nominate at least nine faculty to be interviewed based on variation in rank and on their assessment of the nominated faculty members as either a high performing teacher, researcher, or both

Semistructured interview guides elicited faculty members' responses to questions about their teaching practices and about how institutional and department management strategies and state policies enhanced or constrained their opportunities to contribute effectively to student learning For example, interviewers asked faculty such questions as,

- How, if at all, has your approach to working with undergraduates to enhance their learning changed over the last five to ten years?

TABLE 1
Administrator and Faculty Interviews

Group	Ohio		Tennessee		Total
	OSU	YSU	UTK	TT	
Central Administrators	3	2	3	2	10
Deans	4	4	4	2	14
Chairs & Associate Chairs	4	4	7	4	19
Faculty					
Business	8	9	8	9	34
Literature	9	9	9	9	36
Engineering	8	3	9	9	29
Physics	8	5	8	7	28
Total	44	36	48	42	170

- What factors contributed to changes in the way you work with undergraduates?
- Tell me about state policies related to faculty work in [state]
- In your view, how have these policies influenced the environment for faculty work at your institution and in your department]? and
- How, if at all, have state policies influenced the way you work with undergraduates?

Interviewers asked chairs, deans, and central administrators about their perceptions of faculty teaching practices, how their own managerial strategies influenced faculty teaching, and how state policies influenced the ways they worked with faculty on issues of teaching and learning For example, administrators were asked, "How—if at all—have state policies constrained the way you work with faculty, chairs and deans to promote undergraduate learning?" Interviews were audiotaped and transcribed

Analysis began with induction of a coding scheme from the categorized responses to all interview questions at one of the four universities For example, responses to the question "Tell me about state policies related to faculty work in [state]," were coded for types of policy mentioned (e g , workload, performance funding, budget allocations, enrollment caps, funding formulas) In addition, each interview was examined in more detail to determine respondent awareness of the policy of interest The resulting code scheme was entered into a NUD IST database Interviews from all four universities were coded accordingly New codes were added as new issues emerged when coding responses from the different universities Patterns of similarities and differences were compared between faculty and administrators, between institutional types, and between states Case study findings are summarized in Table 2

Implementing the Ohio Faculty Workload Mandate

The Ohio legislature passed a bill in 1993 requiring public college and university faculty to increase the time they spent teaching Ohio lawmakers' concerns about faculty workload stemmed from two issues large deficits in the state budget and the growing public perception that state universities were neglecting undergraduate education The second concern appeared substantiated by faculty workload data A comparison of aggregate 1990 and 1980 faculty workload data showed that the time faculty reported they spent on teaching had declined by 10% in ten years (Cage, 1995) One section of the Ohio faculty workload mandate "required the Board of Regents to work with the universities to ensure that no later than the fall term 1994, a minimum 10% increase in statewide undergraduate teaching activity be achieved to restore the reductions experienced over the past decade" (Ohio Board of Regents, 1994, p 3) These new workload policies were to supercede conflicting provisions in any faculty collective bargaining agreements

In addition, the mandate also required the Board of Regents to work with state universities to develop standards for faculty workloads, including an acceptable range of faculty time allocated to undergraduate teaching based on departmental missions (Ohio Board of Regents, 1994) The Regents' Advisory Committee recommended that (1) each institution and department should redefine its mission with undergraduate instruction as a primary goal, (2) each institution and department should establish workload policies in accordance with their missions, and (3) university reward systems should recognize the importance of undergraduate teaching The stated aim of the Ohio faculty workload mandate was "significantly improving the *quality* of undergraduate educational experience through redirecting greater faculty attention to undergraduate teaching" (Ohio Board of Regents, 1994, emphasis in the original)

Ohio State University

Ohio State University (OSU), with 48,000 students attending its main campus in Columbus, is both the land-grant university and the public flagship in Ohio The OSU commitment to research is evident in the mission statement redefined in accordance with Ohio workload mandate "Ohio State provides accessible, high-quality undergraduate and graduate education for qualified students who are able to benefit from a

TABLE 2

Four Universities' Responses to State Policies to Improve Undergraduate Education

STATE	Ohio		Tennessee	
POLICY TO IMPROVE UG EDUCATION	Faculty Workload Mandate (Mandate)		Performance Funding Initiative (Inducement)	
UNIVERSITY	Ohio State University (OSU)	Youngstown State University (YSU)	University of Tennessee, Knoxville (UTK)	Tennessee Technological University (TT)
INSTITUTION TYPE	Research university	Comprehensive university	Research university	Comprehensive university
ADMINISTRATORS' STRATEGIES TO COMPLY WITH STATE POLICY	• Lengthened class periods • Modified workload reporting procedures • Developed department workload plans	• Amended collective bargaining agreement • Engaged faculty in mission review, strategic planning, development of workload plans	• Complied with state data collection and reporting requirements • Used performance funds to augment general operating budget	• Complied with state data collection and reporting requirements • Used performance funds to augment general operating budget
CONFLICTING STATE POLICIES	• Low state appropriation compared to other Big 10 universities	• State funding formula favored graduate over undergraduate education	• Low state investment in higher education • State funding formula favored large enrollment	• Low state investment in higher education • No remediation funds • Funded same as non-technical universities
FACULTY RESPONSES				
• Awareness	• Majority of informants mentioned mandate	• Majority of informants mentioned mandate	• Few mentioned performance funding	• Few mentioned performance funding
• Attitudes	• Resistant—thought mandate unenforceable	• Resistant—YSU already had high teaching load	• Frustrated with budget constraints	• Frustrated with budget constraints
• Behavior	• Teaching improvement in response to students, peer support—NOT state policy	• Teaching improvement in response to YSU culture, students, accreditation—NOT state policy	• Teaching improvement in response to students, administrator support, accreditation—NOT state policy	• Teaching improvement in response to TT culture, accreditation, external funding—NOT state policy

scholarly environment in which research inspires and informs teaching" (Ohio Board of Regents, 1995)

OSU may have demonstrated satisfactory compliance with the Ohio Faculty Workload Mandate by taking three actions Administrators lengthened the time assigned to each class and changed the way staff reported faculty time use to the state In accordance with the recommendations of the Regents' Advisory Committee on Faculty Workload Policy, every OSU department developed its own workload plan One chair, for example, told us that the departmental workload policy assigned 60% of faculty time to teaching duties He and other chairs told us that the OSU central administration required departments to develop workload policies, but did not associate the requirement with the Ohio faculty workload mandate One central administrator indicated that after the university submitted copies of department and college workload policies to the Board of Regents, "they left us alone" Before and after implementation of the workload mandate, central administrators had developed strategies to improve the quality of teaching at OSU These strategies included revising the general education curriculum, giving discretionary money to departments to offer additional sections of oversubscribed courses, revising teaching evaluation procedures, and implementing a new $25,000 annual departmental teaching award At the time of the site visit, OSU was revising standard student evaluation forms and departments were implementing systematic peer teaching evaluations

When asked about state policies that affected undergraduate education at Ohio State, some administrators mentioned policies other than the workload mandate Several felt their work was constrained by Ohio's Public Records Law, which provides open access to all documents including letters of reference for students and for faculty promotion and tenure decisions Several others felt their teaching and research work was constrained by state appropriations for Ohio State that were low in comparison to other Big 10 universities

Although more than half the faculty interviewed at OSU mentioned either the workload mandate or spoke of the related requirement for workload activity reports, a large minority did not even mention the mandate Most faculty who mentioned the mandate felt angry about it and asserted the policy was doomed to be ineffective They questioned what it meant to increase teaching by 10% They cited one or more of three reasons why they believed the mandate would not improve the quality of teaching at OSU First, the mandate offered no measurable indicator of quality Second, the mandate was not enforceable because there was no baseline requirement for teaching time Finally, several interviewees asserted that the faculty were not likely to be responsive to externally imposed orders to improve teaching Some faculty respondents also felt that the mandate reflected legislators' misunderstanding of the ways faculty members actually conduct their work In contrast, a few other faculty felt that the mandate had a positive effect because it encouraged more discussion about teaching

Most OSU faculty interviewed said their teaching had changed in the last five years Several were integrating new technology into their teaching Others indicated that they had become more student-centered, lectured less, and encouraged students to integrate and apply what they learned in the classroom They mentioned many reasons for making changes—or not making changes—in their teaching methods and effort Many faculty respondents said they were responding to students Some felt they needed to provide students with more remedial help In contrast, others felt that students had become more sophisticated Junior faculty were especially responsive to student evaluations, while older faculty were more likely to say they had gained confidence from their previous experience with students Some of the faculty said they learned from their peers, either formally from newly instituted peer evaluations, or from informal conversations about teaching Some faculty members perceived that rewards for research undermined individual motivation to teach effectively Many noted that one of the most desired rewards for research is the opportunity to teach less Whether or not they had changed their teaching, few faculty respondents cited the workload mandate or any other state policy as the reason

Youngstown State University

A public master's-level institution, Youngstown State University (YSU) is located in an economically depressed area of northeastern Ohio where steel manufacturing dominated the area until the 1970s In the early 1990s, a new administrative team sought to rejuvenate Youngstown State by involving the university in rebuilding the local economy The new administration involved its faculty in reviewing the institutional mission even before the Ohio Board of Regents required it YSU's mission focused on six themes (1) integration of teaching, scholarship, and service, (2) teaching and learning, (3) access and diversity, (4) research and scholarly activity, (5) connections with the community, and (6) institutional environment (Youngstown State University, 1994) Almost all the administrators and faculty members interviewed emphasized that undergraduate education was YSU's primary mission At the time of the site visit, YSU served 12,500 students, 30% of whom were over age 25 Courses are offered during day, evening, and weekend hours to accommodate the large proportion of commuter students who have work and family responsibilities YSU faculty worked at the university under a collective bargaining agreement

To comply with the Ohio Faculty Workload Mandate, YSU amended its collective bargaining agreement by adding 10% teaching time to the faculty workload of three courses per quarter Although YSU had begun reviewing its mission before the workload mandate was passed in 1993, the corresponding state requirement to review missions may have bolstered the new administration's efforts to revitalize the university through an institution-wide planning process One administrator asserted, however, that most YSU efforts at improvement in the last five years were neither motivated nor supported by the state Strategies developed to meet new goals included encouraging faculty to document how they integrated teaching, research, and service, implementing new annual university awards for teaching, research, and service, offering early retirement incentives, and requiring stricter documentation of "assigned time," course releases for research, and course development In addition, at the time of the site visit every department was engaged in establishing standards for the assessment of student learning

A few YSU administrators and faculty noted that another state policy sent mixed messages about undergraduate teaching Ohio's enrollment-driven formula for allocating funds to state universities weighted graduate students more than undergraduate students These YSU informants felt that state legislators had publicly pronounced the value of undergraduate education with the workload mandate, but funding allocations showed their real values favored graduate education and research.

YSU faculty respondents indicated that the processes of developing mission, strategies, and assessment plans had some negative as well as positive effects on their teaching efforts Faculty members affirmed that administrators encouraged faculty involvement in the process Work at YSU, we were told, was done by committee Some felt that the extraordinary amount of committee work sometimes infringed on teaching time more than at most other institutions On the other hand, respondents recognized that the faculty shared a more important role in shaping the direction of their institution than faculty at most other institutions More than half the YSU faculty interviewed indicated awareness of the Ohio Faculty Workload Mandate Like faculty at OSU, most YSU faculty who discussed the mandate were annoyed by the policy Several said they did not see how the mandate would improve the quality of undergraduate education Instead, they felt YSU faculty were being "punished" by legislation designed to redress perceived shortcomings at the major research universities in the state They noted that YSU's collective bargaining agreement already stipulated a high teaching load

When asked if and how their teaching had changed in the past five years, many YSU faculty said they were incorporating more collaborative and active learning—and becoming more comfortable with encouraging learning rather than professing knowledge to students. They cited community involvement, students, accreditation, and the university climate as motivators for changing their teaching. Several mentioned that interactions with professionals in the community provided them with more insight about the knowledge and skills new graduates needed to secure good jobs. Although some YSU faculty were frustrated by the need to accommodate students' schedules or with the wide range of student abilities, most expressed profound respect for the large proportion of YSU students who were attempting to complete college while working. Several mentioned that efforts to attain or retain specialized or regional accredited status influenced teaching changes in their departments. Finally, several faculty mentioned that the administrative climate change offered moral support for innovative teaching at the university even though few tangible rewards resulted. Similar to the faculty at OSU, few YSU faculty mentioned that state policies had any influence on changes in their teaching.

Implementing Tennessee's Performance Funding Initiative

In 1979 Tennessee became the first of several states to implement a policy linking state budget allocations to indicators of college and university performance (Burke & Serban, 1998). According to the Tennessee Higher Education Commission (THEC), performance funding was an incentive program "designed to stimulate instructional improvement and student learning" (THEC, 1990, quoted in Banta, Rudolph, Van Dyke, & Fisher, 1996). In practice, each institution submits a self-study to the Tennessee Higher Education Commission, which oversees the evaluation process and determines the amount of money to be distributed to each institution. THEC sets policy for the University of Tennessee System and the Tennessee Board of Regents, the state's two higher education systems.

Tennessee historically has invested modestly in higher education. The general funding of state colleges and universities is driven by a student credit hour (or enrollment) funding formula. This formula differentiates undergraduate and graduate enrollments, but does not differentiate by discipline. Furthermore, state universities must compete with K–12 education, the department of corrections, and other programs for the fluctuating supply of sales tax revenues because the state does not have an income tax.

In its first five-year cycle, the Tennessee Performance Funding Initiative gave institutions the chance to earn 2% budget supplements on their education and general budgets for obtaining accreditation, demonstrating their students performed at or above national averages on standardized tests, providing evidence of client satisfaction, and receiving good ratings from peer reviews of their academic programs (Banta et al., 1996). By the time of the site visits, the performance funding initiative was completing its third five-year cycle. Institutions had the opportunity to earn up to 5.45% over their operating budget allocations if they met ten standards set by the state in consultation with campus representatives. New standards had been introduced to emphasize assessment for internal institutional improvement rather than assessment for external reporting. These standards encouraged state universities and colleges to set mission-specific objectives and retention and graduation goals (Banta et al., 1996). State and campus leaders in Tennessee were more likely that those in other states who had implemented similar performance funding programs to perceive that such policies focus on quality and have had a positive impact on improving higher education (Burke & Serban, 1998).

The University of Tennessee, Knoxville

The University of Tennessee, Knoxville (UTK) is the state's flagship public university. Knoxville, in eastern Tennessee, is the main campus of the University of Tennessee System, which also includes two other universities, a medical school, and three institutes. UTK currently serves 25,000 students, 19,000 of whom are undergraduates. The university experienced budget cuts in the ten years preceding the site visit, which left its infrastructure weakened. Historically, the university has been more committed to teaching than research. In recent years, however, central administrators have encouraged research productivity. The nearby Oak Ridge National Labs foster research in the physical sciences and engineering.

With state appropriations for higher education severely limited, UTK administrators engaged in the data collection and reporting necessary to secure the maximum possible performance funding supplement to the institution's operating budget. Although based on departmental performance measures, funds generated by the performance funding initiative were allocated in a lump sum to the central administration at each state campus. The central administration typically used performance funds to supplement general funds, not to enhance specific departments. One administrator admitted that although there had been much discussion about how to use part of the performance funding money "to actually reward performance" they had not yet figured out how to do so A staff member described how administering and scoring standardized tests of student learning to measure improvement might yield a large department about $2,000 per year—enough to purchase a couple of printers No department chair or faculty member, however, even mentioned having received this small direct benefit from accounting for performance

As managerial strategies parallel to but distinct from compliance with the performance funding initiative, UTK central administrators were attempting to encourage better documentation of teaching through peer reviews and student evaluations Administrators felt constrained in their ability to tie evaluations to merit raises, however, because of the extremely tight budget They were scrambling to finance innovations by, as one dean described it, "cannibalizing faculty lines" When a faculty member resigned or moved to another university, some departments used the unused salary to fund such things as computers Resources were all the more tight because of campus leaders' decision to restrict enrollment to 25,000 to preserve better student/faculty ratios and to better ensure a quality education for its students This practice resulted in fewer state funds than if the university had enrolled several thousand additional students, because state budget allocations to institutions were based primarily on student credit hour production

When asked whether any state policies affected their work, many UTK faculty talked at length about how severe budget constraints precluded raises, prevented adequate facilities or technical support, and restricted opportunities to fill empty faculty lines Several administrators commented that few UTK faculty were aware of the performance funding initiative As one department chair said, "Most faculty don't know what the state is expecting Secondly, even if they knew what the state wanted, they wouldn't know or be very mindful about it in the classroom" They were right few faculty interviewed even mentioned performance funding Several faculty discussed faculty evaluations, but did not associate the managerial strategy with the state performance funding initiative

Most respondents said that faculty at UTK already paid attention to teaching, focusing on improvement was a matter of professional pride and commitment to students more than a response to state policy UTK faculty talked of making recent changes in their teaching such as emphasizing concepts, principles, or applied problem solving instead of memorization of equations, formulas, or other content They talked of interacting more with students and of encouraging more interaction among students They said that stimulation for change came from privately funded curricular reform efforts, changed accreditation review policies, department chairs' efforts to encourage teaching innovation, and student feedback None mentioned performance funding as an inducement for positive changes in teaching

Tennessee Technological University

Tennessee Technological University (TT) is one of six universities governed by the Tennessee Board of Regents, which also oversees 14 two-year colleges and 26 technology centers The state's only technological university, it is situated in a rural area 80 miles from the nearest community college Many of the 8,000 students who attend Tennessee Tech are from the local region and are the first in their families to attend college The university serves two groups of students those well-prepared for an engineering or technical education and regional students whose primary and secondary education may not prepare them well for postsecondary work

Central administrators at TT perceived that compliance with the performance funding initiative was necessary both to meet state requirements and to offset a portion of the university's operating budget shortfall The operating budget had effectively decreased by over 30% in the seven years preceding the site visit Administrators needed the funds generated by meeting or exceeding performance funding criteria to pay for general expenses, they had no surplus available to fund instructional enhancements Even with performance funding supplements, there were not sufficient funds to offer faculty raises, to fill vacant faculty positions, to provide for faculty development or travel, or to purchase new equipment. Central administrators appreciated the dedication of TT faculty The evidence of that dedication was the university measuring up to state standards despite the lack of resources Administrators mentioned one instructional benefit of the state policy results of the standardized tests required by performance funding had shown them where to address gaps in the general education curriculum Such tests were only useful, however, if they reflected the current curricula taught by TT faculty In an effort to improve instruction separate from the performance funding initiative, TT initiated a new faculty evaluation procedure to recognize the contributions of excellence in teaching and excellence in research in similar ways

Budget constraints and another state policy severely restricted administrative attempts to associate faculty accomplishments with any sort of raise or reward The Tennessee Board of Regents set salary levels for faculty in public colleges and universities in Tennessee in part by comparing each institution with a set of peers Peer institutions were selected based on degree level—master's-level institutions for TT—rather than on the focus of the degree programs. Unfortunately for TT, few of its selected peers offered similar high-cost technical programs in engineering and the sciences. This state policy led to budget benchmarks underestimating the salaries and infrastructure required for Tennessee Tech to maintain operations and be competitive. Consequently, TT lacked funds to reward high-achieving faculty members with merit raises.

In addition, the performance funding initiative rewarded institutions whose students scored high on standardized examinations. Tennessee Tech could have raised its admissions standards, but this approach would have meant turning away many of the students that the university saw as its primary responsibility.

The impact of budget constraints on TT faculty differed by the external funding available to departments. The dean of the College of Business had developed a foundation to solicit support from alumni and local industries to help faculty develop research and consulting opportunities and to improve their teaching. Engineering faculty were strongly encouraged to secure external funding to offset part of their salaries. Such options were less available to literature or physics faculty. Regardless of their department, when asked to discuss state policies that affected teaching and learning at TT, the majority of faculty interviewed mentioned budget constraints, state reliance on sales tax revenues, and the low priority assigned to higher education when state resources were allocated. These conditions, they said, not only precluded raises or new hires, but also led to large class sizes, reduced elective offerings, and lack of adequate equipment and technology for effective teaching. Few mentioned performance funding at all.

Recent changes in faculty teaching included increased use of student teams, real-world problems, and technology. Other faculty said they would use more technology in their teaching if it were more readily available. Some faculty respondents indicated that they had not changed their teaching styles in years. Efforts to secure accreditation in business and engineering inspired some teaching changes. Faculty also mentioned that their colleagues and administrators were committed to teaching. State policies—particularly budget constraints—were only mentioned as negative influences on teaching and learning.

Discussion

Although the four universities differed in their approaches to implementing state policies to improve undergraduate education, the similarities across institution types and policy instruments may also be instructive for considering how to design levers for change in the future.

Differences in Implementation

Differences in administrative and faculty responses to the Ohio faculty workload mandate and Tennessee's performance funding initiative reflected differences in institutional contexts, time lapsed since the policies were enacted, and conflicting state policies Prior research on state policy implementation in higher education institutions has shown that distinctive institutional contexts shape differing approaches to the implementation process (Mills, 1998, Shaw, 1997) Differences were certainly evident among the four universities in this sample The regional comprehensive universities had fewer resources—but stronger teaching missions—than the research universities In general, faculty at YSU and TT had higher teaching loads than faculty in comparable departments at OSU and UTK The nature of teaching also differed across institution type, because students at the regional comprehensive universities were less likely than those at the research universities to have adequate preparation for college-level work Differences in individual institutional cultures also affected implementation At YSU, for example, faculty participation in decision making about workload was greater than at the other three universities because of institutional culture, collective bargaining, and administrative efforts to involve faculty in strategic planning

The amount of time since the policies were enacted may have influenced faculty awareness of policies at universities in the two states The site visits occurred nearly twenty years after Tennessee's performance initiative had been implemented but only three years after the Ohio workload mandate was enacted The Tennessee performance funding initiative was highly visible during its initial implementation (Banta, 1986) Even during the mid-1980s, UTK reported widespread faculty participation in designing implementing performance funding standards (Ewell, 1986) Twenty years later, however, many faculty may have perceived such practices as student testing and program reviews as part of business as usual, and not realized they were initiated because of performance funding The faculty interviewed for this study sometimes mentioned the review practices, but rarely related them to the performance funding initiative In contrast, recent debates in Ohio about the workload policy and inferences that faculty were not working hard enough were still fresh in many faculty members' memories

Neither the Ohio workload mandate nor the Tennessee performance funding initiative was implemented in a state policy vacuum Faculty and administrators said that other state policies also influenced management of undergraduate teaching and learning at all four institutions The policies cited by respondents in Ohio, however, varied, whereas respondents from UTK and TT consistently cited the state's inadequate sales tax revenues and resource allocation priorities as the sources of severe budget constraints As the Tennessee universities dealt with apparently conflicting state policies, the potential for performance funding to provide inducements for instructional improvement at the department level was reduced

Similarities in Implementation

Despite differences in size, student population, mission, culture, state policy context, and the type of policy instrument enacted to improve undergraduate education, there were striking similarities in the implementation of the Ohio faculty workload mandate and the Tennessee performance funding initiative at the four universities All four institutions provided their respective states with evidence of compliance with their policies, even while administrators mitigated the direct effect of the policies on faculty In addition, implementation revealed tensions between the values of efficient and effective teaching and between the authorities of public trustees or professional experts to define quality

Administrators ensured that their universities complied with the workload mandate and performance funding reporting requirements Developing criteria, collecting data, and preparing reports were more onerous tasks for the Tennessee universities The Ohio workload mandate requirements (mission review, development of department workload guidelines, and faculty time use reports) were less demanding than Tennessee's ten standards, which included major field tests, measurement of general education outcomes, and peer reviews of undergraduate and graduate programs Further, to enforce a mandate, as McDonnell & Elmore (1987) noted, the state must bear the cost of monitoring compliance Once Ohio institutions complied in form, if not in spirit, the state "left [them] alone," according to one administrator In contrast, inducements place the cost burden of demonstrating compliance on the institutions rather than the state (McDonnell & Elmore, 1987) Given low state appropriations for higher education, UTK and TT incurred the data collection and reporting costs to secure enhancement funds

Despite overt compliance, administrators' strategies to manage the Ohio faculty workload mandate and the Tennessee performance funding initiative seemed to mitigate direct impact of these policies on faculty Central administrators responsible for undergraduate education and deans at OSU and YSU did not believe that simply increasing faculty allocation of time to teaching would improve the quality of teaching and learning at their institutions At both Ohio universities, the most tangible result of the workload mandate was a change in the way staff reported faculty time use to the state Faculty interviewed at OSU and YSU said that the workload mandate had little direct impact on the ways they interacted with students or on how they allocated time to teaching and their other faculty responsibilities

Unlike their counterparts in Ohio, Tennessee administrators did believe the practices encouraged by their state's policy could and did have a positive impact on teaching and learning in their universities The performance funding initiative involved administrators and faculty in creating academically meaningful measures and determining how the assessment results should be used Because of extreme state budget constraints, however, implementation of the policy broke down between departmental performance and reward Although departments reported performance, cash-starved central administrators felt they had no choice but to use "additional funds" for general university operating expenses rather than to reward high-performing departments Department chairs and faculty did not experience the direct benefit of performance inducements Some academic administrators served on committees to review performance criteria, but most faculty interviewed at UTK and TT seemed unaware of the performance funding initiative Those that did mention it said that the initiative had no effect on what they did in classroom

The political and decision-making processes involved in implementing state policies within higher education institutions are likely to reveal latent tensions over value-laden issues (Frost, Hearn, & Marine, 1997) Two such issues surfaced from comparing implementation of the workload mandate and the performance funding initiative Both state policies were grounded in the value of improving the quality of undergraduate teaching and learning The first value tension arises from the challenge of accounting for quality, the second value tension arises from differing views about who should be defining quality

The accountability measures most easily used to assess quality tend to focus more on efficiency than on effectiveness The Ohio workload mandate and many corresponding institutional managerial strategies focus on improving teaching efficiency and on increasing instructional productivity These efforts address accountability by requiring faculty and their academic institutions to document the number of courses taught or time spent on teaching Efforts to document efficiency examine student credit hour production among other indicators This focus on faculty instructional inputs and outputs does not directly address student learning outcomes Although ensuring faculty accountability and increasing instructional efficiency are crucial to good management, they do not directly address student learning In contrast, the Tennessee performance

K.P. - 1363

funding initiative has induced institutions to attempt to assess student learning and, therefore, educational effectiveness. A UTK coordinating committee's experience in the 1980s showed that no single standardized test could assess all of the areas of knowledge, skills, or attitudes the committee determined as essential objectives of general education. Nevertheless, the use of such tests since implementation of performance funding has stimulated some general education and major program improvements (Calhoun, 1986, Humphreys, 1986). Ohio and Tennessee faculty members interviewed for this study talked about recent changes they had made to improve their effective contributions to student learning. Many of their efforts, such as assigning real-world problems, teamwork, and encouraging conceptual thinking rather than memorization, addressed learning effectiveness rather than efficiency. None said that they made changes in response to state policy.

State attempts to guide faculty behavior either by regulation or by incentives raise the issue of whether public higher education should be under professional or democratic control (McDonnell, 1991). Professional authority rests in expertise in a specialized body of knowledge that a professional uses to address clients' nonroutine, complex problems. The profession should be self-regulated by its own ethical code, and only professional peers are capable of assessing a professional's work. In contrast, democratic authority rests in the notion that the public interest transcends interests of any individual or group of individuals, individual behavior must be accountable to the public good. A regulatory policy such as the Ohio workload mandate implies that the targeted professionals—faculty—are unlikely to adequately serve clients the state deems most important—students—without monitoring and enforcement. An inducement policy such as the Tennessee performance funding initiative implies that faculty will only serve student client needs consistently if they receive a monetary incentive for doing so. Both policies challenge the notion that professional ethics ensure that the faculty will work in the students', and therefore the public's, interest (Fairweather, 1996). Most administrators and faculty interviewed for this study, however, said that faculty already paid attention to the quality of their teaching. Focusing on improvement was a matter of professional pride and commitment to students.

Implications

When attempting to improve teaching and learning, policymakers should consider the systems within which teaching and learning occurs. Neither the Ohio workload mandate nor the Tennessee performance funding initiative adequately considered the other professional demands faced by faculty—sometimes in response to other conflicting institutional and state policies Furthermore, to be most effective, policies addressing teaching and learning should be aimed at the level of the department, the location where important decisions are made about teaching Departments form the foundational organizational structures of colleges and universities They are the settings where institutional and disciplinary contexts intersect and where faculty teams and individuals engage in the production of learning and research Departments provide identity and community to the disciplinary scholars, link disciplinary communities with college and university organizations, and conduct basic college and university administrative functions The Ohio workload policy focused on departments somewhat by requiring departments to review mission statements and workload policies The Tennessee performance funding initiative further involved departments in setting standards and collecting assessment data Unfortunately, meaningful department participation was reduced because the state funding context precluded the return of inducements to high departmental performers

The Tennessee performance funding initiative initially reflected the ideal of finding an overlap between public and professional interests Faculty members and administrators worked with state agencies to identify appropriate measures of student learning outcomes (Ewell, 1986) The Tennessee experience suggests that incentive programs might be better state policy vehicles for enhancing faculty attention to student learning than mandates Twenty years after its onset, however, the performance funding initiative seems more bureaucratic than innovative with limited faculty awareness of and engagement in the initiative These findings suggest that maintaining faculty commitment to incentive-based programs requires finding ongoing ways of keeping faculty engaged in the process

State policies designed to improve undergraduate education may be more effective when they integrate professional and public control Aspects of the Ohio faculty workload mandate and the Tennessee performance funding initiative which encouraged faculty participation in decision making about mission and objectives, department-level workload standards, and evaluation criteria enlisted faculty members' professional expertise in the service of the public good In institutions in both states, faculty members participated in these efforts often without realizing that the state was at least a co-conspirator with university administrators if not the instigator of the planning effort Thus state and institutional policymakers might consider policies and implementation processes that encourage faculty members' capacity development as institutional and state resources

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James S. Fairweather

The Mythologies of Faculty Productivity

Implications for Institutional Policy and Decision Making

Research accomplishment, the most "cosmopolitan" academic function, has social and economic value Research visibility certainly enhances institutional stature among peers (Alpert, 1985) Political and public support for academic institutions, however, rests on the perceived institutional commitment to "local functions," especially teaching and learning (Ewell, 1994, Hearn, 1992) Legislative calls for accountability and effectiveness, and public concern about increasing costs and the potential adverse consequences for access clearly focus on the teaching mission Many state legislatures have focused on faculty commitment to teaching often in terms of instructional productivity Efforts to eliminate tenure by the governing boards in Arizona and Florida, legislation in Ohio to mandate an increase in the time faculty spend on teaching, and growing legislative interest in post-tenure review are specific expressions of this concern The focus of this reform movement is not limited to public institutions The National Science Foundation, which supports and influences both public and private institutions, recently required grant applicants to state how their research work will affect their teaching effort

Much of the policy debate about the nature of faculty work is

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James S Fairweather is professor of education, Educational Administration, Michigan State University

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shrouded in myth, opinion, and conjecture Critics of the perceived lack of emphasis on teaching in research universities may assume that this criticism applies equally well to teaching-oriented colleges, a questionable assumption at best Parents, potential students, and even state legislators often overestimate the actual cost of attending college (National Commission on the Cost of Higher Education, 1998)

Yet the perceived inattention to teaching and learning, particularly at the undergraduate level, is not off base (Bok, 1992, Fairweather, 1996) Boyer (1990) acknowledged the legitimacy of this claim when he attempted to encourage institutional responsiveness to public concerns about teaching and learning He advocated considering teaching as a form of scholarship to increase its status on college campuses The American Association of Higher Education Forum on Faculty Roles and Rewards took Boyer's concepts a step further, encouraging institutional teams to foster changes in local faculty rewards

The willingness and ability of academic institutions to respond effectively to these challenges is influenced by what Clark (1972) calls institutional sagas These sagas contain a variety of beliefs or myths that help perpetuate organizational culture by socializing new participants (students, administrators, and especially the faculty) by establishing norms for their behavior Among the set of beliefs held by many academic administrators and faculty members about the nature of faculty work and productivity are that (a) teaching, research, and service are activities imbedded in some form within each faculty member's work effort, (b) teaching and research are mutually reinforcing, and as a consequence (c) faculty can simultaneously be productive in teaching and research

Other than hiring new faculty members, the principal expression of academic values about faculty work lies in the promotion and tenure decision It is here rather than in institutional rhetoric that the faculty seek clues about the value of different aspects of their work It is here that productivity is most meaningfully defined and evaluated Yet promotion and tenure decisions are both individual and private in nature These characteristics make it difficult to identify the cumulative effects of individual decisions within an institution, much less identify patterns across types of institutions and disciplines The purpose of this article is to identify these larger patterns by examining national data that represent criteria often used in local promotion and tenure decisions or in annual faculty reviews I am particularly interested in the belief that all aspects of faculty work—particularly teaching and research—can be equally (or somewhat equally) addressed by the work of each faculty member This tenet asserts that each faculty member is expected to be (and can be) the *complete faculty member*—simultaneously productive in both teaching and research

I created a decision model based on how a hypothetical promotion and tenure committee might judge a faculty member's teaching and research performance For this model I developed productivity norms by discipline within type of institution using national survey data Although even liberal arts colleges increasingly value traditional scholarship (Fairweather, 1997), the decision model is primarily applicable to master's, doctoral, and research universities The quantitative model is limited because every promotion and tenure or annual review decision also takes into account qualitative assessments and judgment Nevertheless, most reviews of faculty performance rely heavily on quantitative measures of productivity, especially ones having meaning across the disciplines

Beliefs About Faculty Work

Teaching and Research Mutually Reinforcing

As Crimmel (1984) points out, the teacher-scholar represents the ideal in American higher education This ideal is purportedly perpetuated in the socialization and psychological predisposition of faculty members to pursue both teaching and research (Finkelstein, 1984) Blackburn and Lawrence (1995) epitomize this perspective in their model of faculty productivity Their model places the greatest emphasis on self-knowledge, which includes personal interest, commitment, efficacy, psychological characteristics, satisfaction, and morale Less important, according to Blackburn and Lawrence, is social knowledge, which includes social support, perceived institutional preference, and institutional values (e g , rewards) Environmental influences have a tertiary role in their model

Other authors also have emphasized the psychological and behavioral implications of faculty experiences Bess (1978) claims that experiences during graduate school help shape the future faculty member's attitudes and behavior Alpert (1985), Baldwin and Blackburn (1981), and Boice (1992) claim that the experiences during the early part of the faculty member's career also affect psychological development and orientation and thereby influence behavior

The evidence in support of the intrinsic model of faculty behavior is less convincing than the arguments made in its behalf Blackburn and Lawrence (1995), the leading proponents of this model, found that the most important factors in faculty research productivity were demographic characteristics (e g , rank) and "behaviors," including external research funding In other studies of faculty teaching and research behavior, respectively, Fairweather and Rhoads (1995) and Diamond

(1993) found rewards to be the strongest correlate of faculty behavior, not socialization or attitudes

The belief in the teacher-scholar rests on several tenets

> Teaching and research are seen as mutually reinforcing From this perspective, the best scholars are the best teachers, the best teacher is a scholar who keeps abreast of the content and methods of a field through continuing involvement in research and who communicates knowledge and enthusiasm for a subject to students (Fairweather, 1996, p 100)

Feldman (1987) examined the theoretical bases for believing that research and teaching are mutually reinforcing behaviors Most are versions of Linsky and Straus's (1975) "spillover effect," where, for example, faculty who conduct research are supposedly more likely to introduce research-based material into their classroom instruction Feldman's review of more than 200 research studies found little relationship between student ratings of teaching excellence and various forms of research productivity (overall correlation coefficient of 0 12) Hattie and Marsh (1996) expanded Feldman's analysis and found an even smaller cross-study correlation (0 06) As I did before them (Fairweather, 1993), Hattie and Marsh found a negative relationship between faculty time allocated to teaching and time allocated to research

In contrast, using in-depth investigation of a small number of faculty members, Colbeck (1997) found that teaching and research activities can overlap For example, research is much more likely to overlap with independent study instruction or dissertation committee work than it is to influence classroom teaching By implication, Feldman's and Hattie and Marsh's analyses did not find a relationship between teaching effectiveness and research productivity because they focused on only one aspect of the instructional work effort (i e , classroom instruction) In any case, "the common belief that research and teaching are inextricably intertwined is an enduring myth" (Hattie & Marsh, 1996, p 529)

The Complete Faculty Member

The ultimate tenet about faculty work, which is influenced by beliefs about the importance of intrinsic motivation and the overlap of teaching and research, is that faculty members can be productive in all aspects of faculty work This belief is codified in promotion and tenure dossiers where faculty members are required to demonstrate their productivity in teaching and research (with some emphasis on service as well)

The belief that the typical faculty member can simultaneously achieve high or at least above average levels of productivity in both research and teaching is largely unexamined Feldman (1987) and Hattie and Marsh

(1996) examined ratings of teaching effectiveness, which is one measure of quality but not of productivity Much of my work (e g , Fairweather 1993, 1996) focuses on time allocation and rewards rather than on specific measures of productivity Massey and Wilger (1995) discuss faculty perceptions of both teaching and research productivity, but they do not demonstrate empirically how this relationship plays out among a national sample of professors Even less is known about the variation in expectations and norms for faculty working in distinct types of institutions or by discipline within an institution

Study Purpose and Research Questions

The purpose of this article is to examine empirically the principal beliefs about faculty work to inform the debate about how to increase faculty productivity, enhance the attention paid to teaching, and preserve the parts of academic life essential to carry out the multiple missions of teaching, research, and service I examine two research questions

> *Research Question 1* What percentage of the faculty are productive in teaching or research?
>
> *Research Question 2* What percentage of the faculty are simultaneously productive in both teaching and research?

The Study

Data for this research were gathered in the 1992–93 National Survey of Postsecondary Faculty 1992–93 (NSOPF 1993), sponsored by the National Center for Education Statistics NSOPF 1993 examined a nationally representative sample of 29,764 part-time and full-time faculty in 962 two- and four-year colleges and universities In all, 25,780 full- and part-time faculty from 817 institutions responded (respective institutional and individual response rates of 84 9% and 86 6%) The institutional sample was stratified by source of control (public or independent) and by type of institution Based on the Carnegie Foundation classification scheme (Carnegie, 1987), types of institution ranged from *research universities*, whose faculty train the majority of doctorates in the United States and which house most of the funded research, *doctoral-granting universities*, whose faculty also train doctoral students and conduct research but whose production of doctorates and research dollars generated are less than those of the research universities, *comprehensive colleges and universities*, which focus on liberal arts and professional programs at the undergraduate and master's-degree levels, *liberal arts* *colleges*, which focus on teaching undergraduates (although the majority now also offer some type of masters-degree program), *other 4-year institutions*, which in this study primarily focus on separate medical and engineering schools, and *2-year colleges* For this research, I used weighted data[1] on *full-time, tenure track* faculty from 4-year institutions ($n = 7{,}835$, weighted $n = 269{,}789$) I omitted department chairs because their work allocation patterns are usually distinct from those of regular faculty members The weighted distribution of faculty by type of 4-year institution is as follows 35 0% from research universities, 15 3% from doctoral-granting universities, 34 9% from comprehensive colleges and universities, 8 4% from liberal arts colleges, and 6 4 percent from other 4-year institutions

Methods

For Research Question 1, I calculated the medians for productivity measures by program area within type of institution Based on the decision model I used these data to define "high teaching productivity" and "high research productivity" groups I calculated weighted percentages for these productivity groups *T*-tests were used to examine results by type of institution, gender, race/ethnicity, and academic rank For Research Question 2, I determined the weighted percentages of faculty simultaneously achieving high teaching and research productivity I examined the differences in percentage distributions by type of institution, gender, race/ethnicity, and academic rank

Defining Faculty Productivity

Massy and Wilger (1995) define productivity as the ratio of outputs to inputs, or of benefits to costs Meyer (1998) distinguishes productivity from workload and time allocation "Workload captures how their [the faculty] time is spent, while productivity is a measure of what is produced with that time" (pp 45–46) Massy and Wilger (1995) assert that some accounting for quality is necessary in any definition of faculty productivity They found that faculty members from all types of 4-year colleges and universities typically defined productivity as outputs, not the ratio of outputs to inputs These faculty respondents also were strongly influenced by institutional rewards

> When asked for a definition of the term [productivity], respondents tended to provide broad and complex answers usually involving both teaching and research However, when asked to tell "what matters," respondents

> were more likely to [say] research and publication (Massy & Wilger, 1995, p 12)

Across all types of institutions faculty respondents most often defined their own productivity by refereed publications and research grants (Massy & Wilger, 1995, pp 15–16) Winston (1994) attributes this finding to a national labor market for faculty members that reinforces "the use [of] similar research-oriented criteria in hiring and rewarding existing faculty" (p 43) across institutional type

Consistent with Massy and Wilger's respondents, I define productivity in terms of individual faculty member outputs I include measures of both teaching and research output According to Meyer (1998, pp 48–49), clarifying research and especially teaching outputs represents a step forward in the study of faculty productivity even though they represent only partial measures of productivity (i e , they do not include inputs) Most previous studies of faculty research output (hereafter productivity) focused on quantity, especially the number of refereed publications and competitive research grants Peer review for both publications and grants was assumed to ensure some aspect of quality (Blackburn & Lawrence, 1995, Fairweather, 1996, Konrad & Pfeffer, 1990) Promotion and tenure procedures often include qualitative assessments, such as external review, to assess quality and impact

Less agreement exists about appropriate measures of instructional productivity Researchers and policymakers often confuse teaching productivity, quality, effectiveness, and time allocation and mistake faculty input (e g , hours spent teaching) for student learning outcomes Classroom instruction is often the only form of instructional output examined (Meyer, 1998, pp 53–56)

Measures of instructional productivity serve two purposes The first is to address internal and external accountability (Graham, Lyman, & Trow, 1995) Demonstrating that faculty members teach undergraduate courses, spend an acceptable amount of their time on teaching, and so forth, are essential to maintain or restore public confidence in higher education (Gaither, Nedwek, & Neal, 1994) Relevant measures here include counts such as student contact hours generated per semester

Johnstone (1993) argues that instructional productivity should also serve as a proxy for student learning He points out that measures such as student contact hour production may not reflect student learning productivity Menges (1981) argues that the measures of instructional productivity should include the use of teaching methods found effective in promoting student learning Most of these instructional practices encompass active and collaborative teaching and learning in the classroom

(Angelo, 1993, Chickering & Gamson, 1991, Johnstone, 1993, Pascarella & Terenzini, 1991, Sorcinelli, 1991)

Productivity Measures

The first step in identifying faculty members who are highly productive in teaching and research is to select appropriate productivity or output measures The measures selected must have meaning across all types of 4-year institutions, permit comparison with previous research, and be commonly used in promotion and tenure decisions at many, perhaps most, colleges and universities The principal measure of *research productivity* that meets these criteria is the *number of refereed publications during the previous two years*, where "publication" includes articles in refereed journals, published reviews of books, articles, or creative works, books, textbooks, monographs, and chapters in edited volumes Limiting the time period for the measure of research productivity to the preceding two years was necessary to compare it with teaching workloads and productivity during Fall term, 1992 Although Hattie and Marsh (1996) argue that weighted scales for publishing productivity may be preferable to simple numbers of publications, selecting weights that are applicable across disciplines and types of institutions is impractical and can be misleading For example, a book may be valued more highly in history whereas a refereed article in a top journal may be valued more highly in engineering For this reason, I estimated number of publications with a simple count of eligible publications Publishing productivity has the advantage of having similar meaning and value across types of institution, at least as reflected in faculty rewards (Fairweather, 1996) It also has been widely used in previous research, ranging from Ladd (1979) to Blackburn and Lawrence (1995)

Local promotion and tenure or annual review decisions typically use a broader definition of scholarly output than refereed publications Being a *principal investigator* on an externally-funded research project during at least part of the 1992–93 academic year can be highly valued, especially in engineering, the natural and social sciences, and the health sciences (Konrad & Pfeffer, 1990, Massy & Wilger, 1995) The *total research funds* generated by a faculty member during the 1992–1993 academic year adds useful information about his or her contribution to the department A less prestigious but commonly considered form of scholarship is the *number of conference presentations or workshops during the previous two years* For faculty members in the fine arts, a related measure is the *number of exhibitions or performances during the previous two years*

For *instructional productivity* I first selected a true productivity measure, *student classroom contact hours per semester*. This measure equals the number of hours the faculty member taught in a specific class per week times the number of students enrolled in that class, summed over all the classes taught during Fall term 1992. Student classroom contact hours reflect an individual's gross instructional contribution to the program or department. It does not reflect nonclassroom instructional output. Nor does it adequately reflect the instructional output of faculty members who primarily teach smaller graduate seminars. To measure out-of-class contributions to instructional productivity I have included the *independent study contact hours per week* during Fall term 1992. I also have included the *number of thesis or dissertation committees* served on during Fall term 1992. This measure includes both undergraduate theses and graduate dissertations and theses. It reflects an important instructional contribution made by graduate faculty members.

A proxy for instructional quality focuses on classroom teaching methods. Another proxy commonly used in promotion and tenure decisions, student ratings of faculty teaching, is not on NSOPF 1993. The emphasis here is on the use of best practices found indicative of student learning. Recent literature indicates that students exposed to collaborative or active learning experiences may learn more than those whose classroom experience is passive (Bottrill & Borden, 1994, Bruffee, 1993, Goodsell, Maher, & Tinto, 1992, Svinichi, Hagen, & Meyer, 1996, Weimer, 1990). Based on this literature, I created a measure of whether or not a faculty member *used collaborative or active learning as the primary instructional approach in any course taught in Fall term 1992*. Using the NSOPF 1993 categories, I classified a faculty member as using collaborative or active instruction if the primary instructional approach in any class employed discussion group and class presentations, apprenticeship, internship, field work, or field trips, role playing, simulation, or other performances, group projects, or cooperative learning groups. Lectures and TV were defined as noncollaborative forms of primary instructional approaches. To this group I added faculty members who used both student presentations and student evaluations of each others work—both tenets of active and collaborative teaching—regularly in their courses.

The Decision Model

I created a decision model to represent how a hypothetical promotion and tenure or annual review committee might combine productivity measures to identify *highly productive researchers* and *highly productive teachers*. For each measure other than instructional method (a dichotomy) I developed within-discipline-within-institutional-type norms by calculating the quartiles and medians separately by program area within type of institution (Carnegie, 1987) For research, doctoral-granting, and comprehensive universities I used all ten NSOPF 1993 program areas agriculture/home economics, business, education, engineering, fine arts, health sciences, humanities, natural sciences, social sciences, and other fields The relevant program areas for liberal arts colleges were fine arts, humanities, natural sciences, social sciences, and other fields For other 4-year institutions the relevant program areas included health sciences, natural sciences, and other fields

The decision model appears a bit mechanical, a set of "equations" driven by quantitative standards It ignores the qualitative assessments and judgments inherent in the promotion and tenure or annual review processes The model employs a modest standard to define "highly productive," using above the median rather than substantially above the median (i e , the top quartile) Yet the decision model reflects many commonly held beliefs about the nature and importance of faculty work It is also adequate to determine whether or not the percentage of faculty members simultaneously achieving high levels of research and teaching productivity is consistent with conventional beliefs

The Highly Productive Researcher

I deemed a faculty member a *highly productive researcher* if his or her refereed publications during the previous two years—the gold standard for research productivity—exceeded the median for the relevant program area and institutional type The median is the best measure of central tendency when the distribution is skewed, which was true here To take into account other ways of achieving high levels of research output, I also designated faculty members as *highly productive researchers* if they fell in the second quartile (the quartile immediately below the median) of refereed publications, were a principal investigator on a funded research project, and achieved any one of the following

- in the top quartile of total research dollars generated during 1992–1993
- in the top quartile of conference presentations (or exhibitions and performances if in the fine arts)
- above the median in both total research dollars and conference presentations

Consider the education faculty in research universities as an example I designated faculty members with three or more publications in the previous two years (the median) as highly productive researchers To this group I added faculty members with between one and three publications (the second quartile) who were principal investigators *and* who obtained more than $300,000 in annual research funds (the top quartile) *or* who had more than nine conference presentations (the top quartile) *or* who had at least $25,000 in research funds and five presentations (the respective medians)

The Highly Productive Teacher

I designated any faculty member above the relevant median in student classroom contact hour production as a *highly productive teacher* To this group I added faculty members in the second quartile of student classroom contact hour production if they were also in the top quartile of generating independent study contact hours *and* in the top quartile of serving on dissertation and thesis committees As a separate measure, I used evidence of collaborative or active instruction as a proxy for effective teaching or instructional quality

Results

Research Question 1 What percentage of the faculty are productive in teaching or research?

Tables 1 and 2 demonstrate substantial variation in teaching and research productivity by type of institution and program area, respectively As examples, publishing productivity ranged from a high of about six refereed publications during the previous two years for faculty members in research universities, to a low of less than two publications during the same time period for faculty in liberal arts colleges[2] Faculty members who work in liberal arts colleges produced the least number of total student contact hours in Fall term 1992 (signifying smaller class sizes), whereas faculty members in other four-year institutions produced significantly larger numbers of contact hours[3]

Similarly, across all types of 4-year institutions publishing productivity ranged by program area from 1 49 publications per two-year period in fine arts to 5 08 in health sciences The faculty in business, education, the fine arts, humanities, and other fields produced below average numbers of publications, faculty in engineering, health sciences, and natural sciences were above average[4] Student contact hours ranged from a high of about 537 student contact hours for faculty in health sciences to a low of about 223 in engineering Faculty in the health sciences produced a much greater number of contact hours than did their counterparts in other program areas[5]

These results support the more detailed breakdown by program area

TABLE 1

Productivity Measures by Type of Institution

	All 4-Year		Research		Doctoral		Comprehensive	
	Mean	*SE*	Mean	*SE*	Mean	*SE*	Mean	*SE*
Research Productivity								
Publications, 2-year	3 850	0 068	5 780	0 179	3 840	0 128	2 060	0 07
Principal investigator (%)	28 840	0 557	47 300	1 374	27 470	1 209	12 140	0 60
Research dollars ($)	172,655	10,509	198,654	17,391	176,052	28,244	70,840	7,69
Conference presentations, 2-year	4 060	0 084	5 440	0 218	4 160	0 182	2 940	0 10
Teaching Productivity								
Student contact hours	328 940	5 665	317 650	15 241	328 300	12 778	335 330	6 65
Independent study contact hours	6 500	0 131	7 560	0 273	6 140	0 229	5 600	0 21
Thesis/dissertation committees	4 730	0 108	7 290	0 296	5 070	0 211	2 820	0 13
Instructional Approach								
Proportion using collaborative/active instruction	0 252	0 005	0 189	0 011	0 227	0 011	0 317	0 00

Source NSOPF 1993

TABLE 2

Productivity Measures by Program Area

	Agriculture/Home Economics		Business		Education		Engineering		Fine Arts	
	Mean	*SE*	Mean	*SE*	Mean	*SE*	Mean	*SE*	Mean	*SE*
Research Productivity										
Publications, 2-year	4 740	0 383	2 800	0 177	2 750	0 182	4 630	0 300	1 490	0 168
Principal investigator (%)	67 240	3 981	8 110	1 221	18 480	1 643	56 940	2 658	7 070	1 292
Research dollars ($)	116,176	11,707	124,758	42,286	214,784	61,248	184,848	13,841	26,150	8,062
Conference presentations, 2-year	7 420	0 656	2 940	0 231	6 030	0 396	6 180	0 641	2 720[a]	0 270
Teaching Productivity										
Student contact hours	241 610	21 304	295 880	8 863	285 190	19 202	223 270	13 651	247 460	13 404
Independent study contact hours	9 040	0 890	3 600	0 392	5 100	0 298	8 920	0 637	7 440	0 480
Thesis/dissertation committees	8 160	0 784	1 630	0 169	8 590	5 400	8 100	0 639	4 150	0 387
Instructional Approach										
Proportion using collaborative/active instruction	0 190	0 036	0 265	0 019	0 508	0 215	0 050	0 010	0 563	0 025

SOURCE NSOPF 1993

[a] In addition the fine arts faculty averaged 17 02 exhibitions or performances (SE = 1 894)

within type of institution Again, substantial variation exists For example, the median for publishing during the previous two years in research universities ranged from a low of 0 in agriculture to a high of 6 in the health sciences In doctoral-granting universities fine arts faculty members published the least, engineering faculty members the most In comprehensive institutions the social sciences faculty published the most In liberal arts colleges the top publishers were in the humanities and social sciences In other 4-year institutions the natural sciences faculty published the most [7]

In research and doctoral-granting universities the business faculty produced the highest median student contact hours In comprehensives it was the social sciences faculty In liberal arts colleges the natural sciences faculty generated the most student contact hours, in other 4-year institutions it was the health sciences faculty

Based on the decision model criteria, about 50% of the faculty are highly productive teachers regardless of type of institution (see Table 3) The percentage of highly productive researchers ranged from about 39 in liberal arts colleges to almost 50 in research universities It is slightly higher in research-oriented institutions than in teaching-oriented colleges [6] The faculty in bachelor's- and master's-level institutions were

TABLE 2 (*Continued*)

Health Sciences		Humanities		Natural Sciences		Social Sciences		Other	
Mean	*SE*	Mean	*SE*	Mean	*SE*	Mean	*SE*	Mean	*SE*
5.080	0.273	3.490	0.142	4.890	0.197	4.090	0.162	2.790	0.145
39.160	1.906	8.470	0.805	46.440	1.396	23.940	1.482	19.600	1.574
175,064	23,640	49,668	13,139	173,314	15,740	179,063	25,866	202,375	76,471
5.410	0.289	2.820	0.143	3.560	0.147	3.710	0.186	3.390	0.211
557.190	39.467	254.680	6.354	389.790	15.190	317.810	10.830	300.920	10.549
9.680	0.571	4.200	0.249	7.900	0.342	4.730	0.285	5.640	0.315
2.520	0.241	3.230	0.153	5.230	0.295	5.340	0.259	4.280	0.307
0.236	0.019	0.370	0.014	0.098	0.008	0.141	0.012	0.326	0.018

more likely to use collaborative or active instruction than their counterparts in research-oriented universities.[8]

Women were less likely than men to be highly productive teachers ($t = 2.67, p < .01$) or researchers ($t = 3.43, p < 0.001$). They were much more likely than men to use active or collaborative teaching ($t = 10.77, p < 0.001$). Minority faculty members were as likely as majority faculty members to be designated highly productive researchers, less likely to be highly productive teachers ($t = -4.09, p < 0.001$). Slightly fewer minority faculty members employed active or collaborative instruction in their classrooms ($t = -2.40, p < 0.05$). Full professors were the most likely to be designated highly productive researchers,[9] assistant professors the least likely to be highly productive teachers.[10] Assistant professors used active or collaborative instruction more often than their senior colleagues.[11]

Research Question 2. What percentage of the faculty are simultaneously productive in teaching and research?

I defined two groups of high research/high teaching productivity. Group 1 consists of the faculty who were designated both highly productive teachers *and* researchers. Group 2 consists of the faculty who were highly productive teachers and highly productive researchers (Group 1), *and* who used collaborative or active teaching approaches in their classes. Table 4 presents the results by type of institution, gender, race/ethnicity, and academic rank.

TABLE 3

High Research or Teaching Productivity by Institutional and Demographic Characteristics

	Institutional Type											
	All 4-Year		Research		Doctoral		Comprehensive		Liberal Arts		Other	
	Mean	*SE*	Mean	*SE*	Mean	*SE*	Mean	*SE*	Mean	*SE*	Mean	*SE*
% Highly productive researchers	45 260	0 618	49 090	1 393	46 670	1 364	41 590	0 915	39 480	2 068	46 030	2 483
% Highly productive teachers	53 600	0 630	52 290	1 449	54 620	1 378	54 520	0 930	52 800	2 117	53 970	2 711
Proportion using active/collaborative instruction	0 252	0 005	0 189	0 011	0 227	0 011	0 317	0 009	0 342	0 020	0 171	0 021

	Gender			
	Female		Male	
	Mean	*SE*	Mean	*SE*
% Highly productive researchers	41 880	1 067	46 370	0 756
% Highly productive teachers	50 910	1 099	54 490	0 770
Proportion using active/collaborative instruction	0 347	0 010	0 221	0 006

TABLE 3 (*Continued*)

	Race/Ethnicity			
	Nonminority		Minority	
	Mean	*SE*	Mean	*SE*
% Highly productive researchers	45 060	0 696	46 690	1 346
% Highly productive teachers	54 380	0 709	48 040	1 378
Proportion using active/collaborative instruction	0 256	0 006	0 226	0 011

	Academic Rank							
	Professor		Associate		Assistant		Lecturer	
	Mean	*SE*	Mean	*SE*	Mean	*SE*	Mean	*SE*
% Highly productive researchers	49 750	1 071	44 650	1 114	42 420	1 072	18 060	2 908
% Highly productive teachers	54 070	1 087	56 360	1 130	49 520	1 106	58 110	3 762
Proportion using active/collaborative instruction	0 231	0 009	0 243	0 010	0 283	0 010	0 336	0 040

Source NSOPF 1993

TABLE 4

Percentage of Faculty Members Productive in Both Teaching and Research by Institutional and Demographic Characteristics

	All 4-Year		Research		Doctoral		Comprehensive		Liberal Arts		Other	
	Mean	*SE*	Mean	*SE*	Mean	*SE*	Mean	*SE*	Mean	*SE*	Mean	*SE*
Group 1	22.09	0.53	21.69	1.21	21.54	1.15	22.79	0.79	20.40	1.73	23.82	2.33
Group 2	5.96	0.31	4.59	0.63	4.05	0.57	7.90	0.52	8.07	1.20	4.54	1.17

Gender

	Female		Male	
	Mean	*SE*	Mean	*SE*
Group 1	20.11	0.89	22.75	0.65
Group 2	7.10	0.59	5.59	0.37

Race/Ethnicity

	Non-Minority		Minority	
	Mean	*SE*	Mean	*SE*
Group 1	22.49	0.60	19.23	1.10
Group 2	6.06	0.35	5.25	0.65

Academic Rank

	Professor		Associate		Assistant		Lecturer	
	Mean	*SE*	Mean	*SE*	Mean	*SE*	Mean	*SE*
Group 1	24.04	0.94	22.98	0.97	19.58	0.88	9.77	2.30
Group 2	6.35	0.55	5.90	0.55	5.90	0.54	1.40	0.95

In 1992–1993 about 22% of all faculty in 4-year institutions simultaneously attained high productivity in teaching and research (Group 1) This percentage did not vary substantially by type of institution When collaborative/active instruction is added to the definition (Group 2), the overall percentage drops to about 6% Faculty members in liberal arts and comprehensive colleges were more likely to make this latter designation than their counterparts in doctoral-level institutions [12]

Slightly more men attained Group 1 status ($t = -2\ 40$, $p < 0\ 05$), whereas slightly more women attained Group 2 ($t = 2\ 17$, $p <\ 05$) Nonminorities were more likely to attain Group 1 ($t = -2\ 61$, $p < 0\ 01$), Group 2 did not vary by race/ethnicity Lecturers and assistant professors were less likely than their senior colleagues to attain Group 1 [13] Group 2 membership did not vary by academic rank with one exception lecturers were less likely to be in Group 2 [14]

Discussion

The small percentage of faculty in all types of 4-year institutions who achieved high levels of output in both research and teaching during 1992–1993 belies the common belief that each faculty member can achieve both simultaneously Even fewer were able to achieve above the norm in teaching and research productivity while using potentially more effective instructional practices Formal personnel policies for tenure-track faculty that presume simultaneous productivity in research and teaching often do not adequately reflect the difficulty in achieving such a mix Indeed, dossiers for promotion and tenure and for annual review often require faculty members to document contributions to public service, professional service, and administration in addition to teaching and research productivity Informal personnel policies do reflect this difficulty Gappa and Leslie (1993) demonstrate that 4-year colleges and universities increasingly rely on part-time and adjunct faculty and teaching assistants to attain acceptable levels of instructional productivity, thereby freeing time for full-time faculty to focus on research

Across all types of 4-year institutions, the most common factor in simultaneously achieving high teaching and research productivity is to spend more hours in the classroom (Fairweather, 1999) However, this effort may deter faculty members from using collaborative teaching techniques (Olsen & Simmons, 1996) Faculty members with higher classroom work assignments typically are able to publish at greater than average rates when they also have a research grant, which gives them the opportunity to publish from their ongoing research work Faculty attitudes and beliefs are also important, especially the fit with institutional missions and the perception that research should be the primary criterion in promotion and tenure (Fairweather, 1999).

These results help explain why so few faculty are able to achieve above average levels of teaching and research productivity at the same time. Few faculty members are able to publish while carrying above average teaching loads. Few faculty members have externally funded research projects, a resource that increases their ability to publish while teaching above average numbers of students. Even fewer attain above average productivity levels in teaching and research while using active or collaborative instructional techniques. In sum, simultaneously achieving high levels of productivity in teaching and research—the *complete faculty member*—is relatively rare. For most faculty members, generating high numbers of student contact hours diminishes publication rates, and vice versa.

Untenured faculty members are the least likely to attain high levels of both research and teaching productivity during a given two-year period. Making certain that the untenured faculty shift their work focus during the pre-tenure period to achieve sufficient productivity in both teaching and research seems especially important. Each annual review should be considered in light of the career to date, not just a snapshot of current productivity. Policies that identify the most valued outputs also seem more useful than ones that imply every activity category is equally important.

Policies meant to encourage teaching productivity and effectiveness might adversely affect individual research productivity, and vice versa. More complex and potentially successful policies might reward teaching and research productivity differently at distinct points in the faculty career. Alternatively, rather than having a single broad institutional expectation for faculty work, academic policies might differentiate individual faculty responsibilities and allocate rewards accordingly. In its most radical form, this alternative might lead to the "unbundling" of faculty work responsibilities with differential work assignments, expectations, and rewards.

For most academic departments, the key to increasing teaching and research productivity may lie in looking for group solutions rather than on relying on each faculty member to increase productivity levels in teaching and research. Viewing faculty productivity as an aggregate across faculty members permits department chairs and departmental committees to combine the efforts of their individual members to achieve acceptable levels of productivity. Faculty who are less productive in research can increase the departmental average teaching productivity, whereas faculty who publish extensively can contribute to aggregate research productivity goals In any case, the departmental or aggregate view of faculty productivity implies far more interdependence than is currently accepted as the norm for faculty behavior.

Notes

[1] Population estimates from survey data were based on weights derived from the inverse of the probability of a faculty member in a particular type of institution being selected The probability of selecting a faculty member for the sample was a function of the odds of an institution being selected from the universe of accredited postsecondary institutions and the probability of a faculty member being selected from the population within his or her institution

[2] t(res/doc) = 8 82***, t(res/oth) = 2 33**, t(oth/doc) = 2 91**, t(doc/comp) = 12 11***, t(comp/lib) = 2 01* where * = $p < 0$ 05, ** = $p < 0$ 01, *** = $p < 0$ 005 The comparison being made is shown in parentheses For example, t(res/doc) refers to the mean difference between the publications rate of faculty members in research universities with faculty members in doctoral-granting universities Only significant t-test results are shown For a list of all comparisons of mean differences associated with tables 1 and 2 contact the author

[3] t(res/lib) = 3 66***, t(doc/lib) = 2 08*, t(comp/lib) = 6 85***, t(oth/res) = 4 37***, t(oth/doc) = 4 19***, t(oth/lib) = 6 65***

[4] t(business) = −6 24***, t(education) = −6 92***, t(engineering) = 2 79*, t(fine arts) = −16 30***, t(health sciences) = 6 06***, t(humanities) = −3 05*, t(natural science) = 5 30***, t(other) = −7 03*** For academic disciplines, t tests were based on comparing the mean for the program area with the overall mean Bonferroni corrections were used to estimate the level of significance of each test

[5] t(health sciences) = 6 10***, t(natural science) = 4 03***, t(agriculture) = −3 78***, t(business) = −3 16*, t(education) = −2 75*, t(engineering) = −7 36***, t(fine arts) = −6 39***, t(humanities) = −5 78***

[6] t(res/comp) = 4 50***, t(res/lib) = 3 86***, t(doc/comp) = 3 10***, t(doc/lib) = 3 67***

[7] Contact author for the complete table, which is too large to include here

[8] t(lib/res) = 6 71***, t(lib/doc) = 5 04***, t(lib/oth) = 5 90***, t(comp/res) = 9 01***, t(comp/doc) = 6 34***, t(comp/oth) = 6 40***

[9] t(full/assoc) = 3 30***, t(full/asst) = 4 48***, t(full/lect) = 10 22***

[10] t(full/asst) = 2 97**, t(assoc/asst) = 4 39***

[11] t(full/asst) = −3 85***, t(assoc/asst) = 2 86**

[12] t(comp/res) = 4 03***, t(comp/doc) = 5 00***, t(comp/oth) = 2 62**, t(lib/res) = 2 57*, t(lib/doc) = 3 05**, t(lib/oth) = 2 11*

[13] t(prof/asst) = 3 46***, t(prof/lect) = 5 74***, t(assoc/asst) = 2 60**, t(assoc/lect) = 5 83***, t(asst/lect) = 3 99***

[14] t(prof/lect) = 4 45***, t(assoc/lect) = 4 09***, t(asst/lect) = 4 13***

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David W. Leslie

Resolving the Dispute

Teaching is Academe's Core Value

In an earlier article (Leslie, 2000), I analyzed data from the National Survey of Postsecondary Faculty conducted in 1993 (NSOPF-93) and concluded that discipline and type of institution acted jointly to differentiate patterns of faculty pay, work, and job satisfaction That analysis led me to conclude that the American academic profession is fragmented along the lines Burton Clark (1989) hypothesized when he offered his "small worlds, different worlds" metaphor

Clark (1980) recognized that competing loyalties had begun to affect the social structure and processes of higher education His work on comparative higher education confirmed that faculty worldwide were drawn to the communities of their professions and disciplines to a greater extent than they were drawn to the institutional communities in which they were employed He continued to write about the "loose coupling" of academic life, the "confederative" nature of the academic profession, and the strength of disciplinary norms in shaping the work of academics (Clark , 1987)

In particular, his 1987 book, *The Academic Profession National, Disciplinary, and Institutional Settings*, suggested that the usual assumptions about a "universal type" of academic ought to be challenged He thought it more likely that differences and variability would characterize the many professions, disciplines, and fields of study comprising universities and colleges than any overarching (and simplistic) generalized

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David W Leslie is Chancellor Professor of Education at The College of William and Mary

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characteristics Clark suggested that type of institution and academic discipline exert centrifugal force on the profession by drawing faculty into separate worlds Alpert (1985) outlined the many external forces that have empowered disciplines and departments with negotiating leverage against the institutional university, acknowledging that there is wide variation among disciplines and that functional differences may be observed from one stratum of institution (research universities, for example) to another (comprehensive universities, for example) Whether these centrifugal forces also draw faculty away from unifying norms common to all academics sharing professional ideals remains an open question

However, it is not a new question Light (1974a, 1974b) and Clark (1980) were wrestling with these questions decades ago Light, in fact, asserted at one point that "the academic profession does not exist" in a sociological sense (1974a, p 12) He suggested that disciplines asserted a divisive normative power, and that a divide between a commitment to teaching and a commitment to research further drew faculty to the poles of their respective disciplines (see also Fulton and Trow, 1974) Although scant empirical evidence has been marshaled to illuminate the divergence or convergence of norms in the academic profession, some research has suggested that both discipline (Braxton, 1990) and type of institution (Braxton, 1989) promote fragmentation Finkelstein's (1997) careful historical analysis highlights the evolution of institutional and professional careers as relatively independent of each other and as potentially competitive forces underlying ambiguity and conflict in the faculty role Fairweather's (1996) important analysis of faculty work shows that both discipline and type of institution shape the proportion of time individuals spend on teaching and research

Thus, theory and evidence both run counter to assumptions that academics share a unifying normative press, a "coherent internal professional ethos" (Fairweather, 1996, p 2), a sense that they are members of a common profession and may be expected to act selflessly and altruistically on behalf of some overarching common values But public expectations, images ranging from "Mr Chips" (Hilton, 1935) to stereotypes of mad scientists (Skal, 1998), and a long history of normative rhetoric from within academe, suggest a shared mythology about "professors " Do these myths mask an underlying heterogeneity, and are academics indeed more different than alike? Do such differences make it harder to create community in individual colleges and universities or to draw faculty into a sense of ownership for their institutions? Most critically, how do these differences—to the extent that they exist—affect faculty responsibility for teaching, learning, service, and the advancement of knowledge?

One of the most persistently alleged "fault lines" dividing the faculty seems to be whether teaching or research should be the driving force behind decisions about faculty work, rewards, and careers My guiding question was to ask what data from the 1992–93 National Survey of Postsecondary Faculty (NSOPF-93) showed about faculty views on the relative primacy of teaching and research as criteria for promotion and to assess whether the incentive structure matches values, attitudes, and work patterns of faculty Notwithstanding a great deal of rhetoric about what faculty do and how they are rewarded, only fairly recently have extensive empirical data become available to enable examination of the value faculty actually attach to rewards based on teaching or research In this article I assess attitudes toward the primacy of teaching and research as criteria for awarding promotion and tenure

Background

The central normative statement on academic freedom and tenure, published originally in 1940 by the American Association of University Professors (AAUP, 1940), is fundamentally *procedural* in character It defines academic freedom in teaching and research and it recommends a probationary period prior to the award of tenure But it nowhere attempts to establish or weigh the criteria an institution might use to evaluate candidates for promotion in rank or for tenure Process norms are different from content norms The *content norms* for judging whether or not a person should be granted tenure (or be promoted in rank) may be contested by the competing standards of (a) specific institutions, (b) the disciplines and professions represented on faculties, (c) state policy that governs employment at public institutions, or (d) market factors (including incentives to seek research funds and public opinion)

What are the norms that govern faculty behavior and that determine who succeeds in academic careers? Are they the same for faculty at all types of institutions and in all disciplines? Is research really what most faculty prefer to do? Is it what they are rewarded for?

Historical Perspective

Altbach (1997) and Finkelstein (1997) have shown how the academic career develops along two different tracks—the institutional and the professional—and trace historical developments that have introduced successively more complex (and conflicted) norms for performance and rewards over the past century and a half Originally, faculty were expected to teach and serve their institutions Beginning in the middle of the nineteenth century, leading institutions began to expect faculty to achieve specialized training in a discipline. Gradually, research in those disciplines became more central to the academic career—reinforced by the emergence of formally organized disciplines, the American Association of University Professors, independent sources of funding by the federal government and others, demand for faculty with visibility and national reputations, and increasing competitiveness among institutions for recognition and prestige (Fairweather, 1996). As Riesman (1958) foresaw, although the norms of disciplinary achievement (via research) came to assert strong influence over professionwide norms, most faculty continue to spend the very large majority (if perhaps a declining portion) of their time teaching (Fairweather, 1996).

Institutional Norms

Institutions obviously differ in the standards they use to judge candidates for promotion and tenure. At the University of Illinois, a major research university, the criteria appear as follows:

> A recommendation for tenure should be based upon an assessment that the candidate has made contributions of an appropriate magnitude and quality in research, teaching, and service, and has demonstrated a high likelihood of sustaining contributions to the field and to the department, so that granting indefinite tenure is in the best interest of the University of Illinois. (University of Illinois, 2000)

Illinois Wesleyan University, a private liberal arts institution, states its criteria for the award of tenure differently:

> Faculty members are evaluated for tenure on the basis of competence and experience in classroom teaching and responsibilities associated with classroom teaching, completion of professional training, scholarly/artistic ability and achievement, and constructive contribution to the University. (Illinois Wesleyan College, 2000)

At the University of Illinois, research appears to come before teaching, whereas at Illinois Wesleyan, "competence and experience in classroom teaching" takes the central place. In the first case, "contributions to the field" imply strongly that one's reputation as a researcher among peers in the discipline is important. In the second case, "contribution to the University" suggests that a commitment to effective citizenship at the employing institution is a primary concern. These two very different sets of expectations run distinctly parallel with the "cosmopolitan-local" dichotomy as explained by Gouldner (1957, 1958).

This simple dichotomy suggests a more complex play of norms in academic personnel decisions. On one hand, it affirms that different criteria may apply in institutions with different norms, that "cosmopolitan" norms are referenced to disciplinary peer groups—and perhaps enforced by them It also affirms that "local" norms may be referenced to the institution and its communal values These differences parallel Clark's small worlds, different worlds hypothesis The "small worlds" represent the cosmopolitan norms developed and maintained by disciplinary peer groups—norms accepted by some institutions (research universities) as legitimate adjuncts to the university's own The "different worlds" represent the proportional emphasis on research and teaching that varies predictably among types of institutions

It is not possible to predict the mix of factors that might enter promotion and/or tenure decisions at any given university or college in any given case That would require developing an empirical history of a large number of decisions and a statistical model of the relative weights of these factors No such study appears to have been done But the NSOPF data can provide a snapshot set of correlations that illuminate the relative pull of teaching and research in the mix of faculty values, work patterns, and reward structures

Disciplinary Norms

Disciplinary or professional associations do not commonly publish *content* standards for tenure or promotion Among the exceptions are those of the College Art Association (1996)

> Both the relative weight among research, service, and teaching and at the levels of performance expected in each must be explicit and in writing, liberal arts institutions may give equal weight to all three areas, while research universities are more likely to place greater emphasis on research accomplishment

Emmert and Rollman (1997) surveyed departments of communication to establish *empirical norms* for granting promotion They found that "scholarship" was among the expectations at all institutions They also concluded that expectations for scholarship increased over time

Few published efforts to establish content "norms" for evaluating faculty performance in individual disciplines exist Diamond and Adams (1995) reported on a project to explore common definitions of faculty work among 16 disciplines as a way to enhance recognition of different elements of scholarship They found differences and commonalities among these varied conceptualizations of faculty work Among other things, they found that disciplines are differently situated in the distribution of teaching and research activities and that what may be essential to scholarship in one is less central in another English, for example, bears heavy responsibility for the basic instruction of all students at many institutions Physics, on the other hand, may have small courses and few nonmajors enrolled The authors found that sociology attracts a culturally (and educationally) diverse population compared to other disciplines—a reality that requires a different approach to teaching and learning than might be the case in, say, mathematics In addition, varied opportunities for external funding, varied accreditation standards, and other factors may distance the disciplines from each other in their conceptualizations of faculty work and how they would choose to weigh the elements of "scholarship" in distributing rewards Although Diamond and Adams' report acknowledges the centrality of discipline norms in shaping faculty work, it also establishes the variability among those norms to a greater extent than has been generally acknowledged

State Policies

Russell (2000) reports fairly extensive legislation and/or regulation concerning tenure and post-tenure review This activity has been mainly procedural and not substantive Institutions may be required to establish procedures but typically can select their own criteria and standards for assessing faculty Content norms, when specified, reflect institutional norms These norms often indicate that teaching performance is weighted most heavily, followed by "scholarship"

Market Factors

Supply and demand imbalances in the academic labor market have been forecast (Bowen & Schuster, 1986, Bowen & Sosa, 1989), but predicted shortages have not been realized To the contrary, Gilbert (1997) noted that an apparent surplus of PhDs seeking work had affected opportunity in an array of disciplines and professions Davis (1997) documented the oversupply and underemployment of PhD mathematicians Shettle (1997) found that the unemployment rate for PhDs in science and engineering reached its highest level in 20 years during the early 1990's But Syverson (1997) assessed several reports of PhD employment and concluded that the picture was best understood as "complex"—with variations among fields These supply-demand imbalances may increase competition among prospective faculty, shaping behaviors as recent PhD recipients "bet" on their chances for jobs and for long-term career security It is not yet clear whether the calculations junior faculty make are consistent or inconsistent with the realities and norms of their respective institutions and disciplines

Research and commentary leave the issue unresolved Faculty appear to be pressed by reward systems to teach well and do significant research It is clear that those who excel in research receive higher salaries

(Fairweather, 1996, p 69), it is less clear that other rewards, including promotion and tenure, go to the same faculty It is also not clear how faculty view the reward systems at their institutions, nor how the independent or joint effects of institutional type and discipline may act on (a) the actual distribution of rewards or (b) faculty attitudes about the relative value of teaching and research

Method

This study was designed on the assumption that the small and different worlds of the disciplines and institutional sectors divide faculty, and that "norms" (as reflected in faculty attitudes) concerning the relative importance of teaching and research would form around these differentiating factors I analyzed raw data from the restricted use file of the National Survey of Postsecondary Faculty conducted in 1992–93 (NSOPF-93) with routines (principally ANOVA, the Student-Newman-Keuls post-hoc comparison routine for significant *F*-tests, and Pearson *r*) from SPSS 9 0 The NSOPF-93 sample consisted of 25,780 respondents, or 86 6% of those who were surveyed I used weighted data based on the adjusted estimate of 1,033,966 instructional and noninstructional faculty in a universe of 3,188 institutions. For purposes of this study, I included only those full-time faculty whose principal responsibility was for-credit teaching, which reduced the overall weighted sample size to 517,954 Summary statistics, methodological details, and survey items for NSOPF-93 are reported in Kirshstein, Matheson, Jing, and Zimbler (1997) Variables in the main analyses are listed in Table 1 along with the relevant scaling

Results

The main hypothesis I addressed is based on the assumption that "small worlds" (disciplines) and "different worlds" (type of institution) interact or produce joint effects on faculty attitudes toward rewards If the work of Fairweather (1996), Riesman (1956), and others is correct, then we should observe a press toward isomorphic norms, specifically a general, undifferentiated trend for all faculty to do and to value research The alternative hypothesis, differentiation among faculty labor markets by stratum (Clark, 1989), suggests we should observe an increasing press to teach and be rewarded for doing it well at liberal arts and community colleges (Youn & Zelterman, 1988) By the same token, if Alpert's (1985) matrix theory of university organization is correct, there should also be a heightened interest in and responsiveness to rewards for

TABLE 1
Independent and Dependent Variables

Independent Variables	Dependent Variables	Scales
#X09_0 (modified) Institution strata		Carnegie classifications, combining public and private institutions into single groups
#X01A12 Program area Teaching		Ten broad academic fields consistent with NSOPF-88 classification
	#F59A “Please indicate the extent to which you agree or disagree Teaching effectiveness should be the primary criterion for promotion of college teachers at this institution ”	1 = Disagree strongly 2 = Disagree somewhat 3 = Agree somewhat 4 = Agree strongly
	#F59B “Please indicate the extent to which you agree or disagree Research/publications should be the primary criterion for promotion of college teachers at this institution ”	1 = Disagree strongly 2 = Disagree somewhat 3 = Agree somewhat 4 = Agree strongly
	#F59C “Please indicate the extent to which you agree or disagree At this institution, research is rewarded more than teaching ”	1 = Disagree strongly 2 = Disagree somewhat 3 = Agree somewhat 4 = Agree strongly

research among faculty in disciplines that receive more external research support, for example, the hard, nonlife fields that Biglan (1973) identified These general directional hypotheses were tested using three two-way ANOVAs with type of institution and teaching field as independent variables and, successively, responses to the three items listed in Table 1 as dependent variables This procedure explicitly tests the interaction effects of “small worlds” and “different worlds” on perceived rewards and on faculty attitudes toward the primacy of teaching or research as the desired emphasis of reward systems Power with such large weighted *n*’s is perhaps grossly inflated, so the likelihood of a type II error is high But it is also reasonable to assume that samples of this size minimize errors of measurement

Descriptive Results

Taken as a single, undifferentiated population, full-time faculty (weighted n = 517,954) agree that “teaching effectiveness should be the primary criterion for promotion." (Mean = 3.13, *sd* = 0.93, with 3 meaning "agree somewhat") They also disagree, on the whole, that "research [and] publication should be the primary criterion for promotion." (Mean = 2.08, *sd* = 0.93, with 2 meaning "disagree somewhat") This difference confirms a strong normative commitment to teaching as the principal value of the academic profession. But it masks the effects of institutional type and teaching discipline on faculty attitudes. (Part-time faculty show both an absolutely and relatively stronger commitment to teaching versus research, but this article will consider only the attitudes of full-time faculty.)

The mean response to the item asking if research is *rewarded* more than teaching was 2.51 (*sd* = 1.19), almost exactly the midpoint of the scale from 1 to 4, a remarkable result in a weighted sample of over half-a-million. Does this reflect an unresolvable ambiguity among faculty perceptions, or does it mask variability across the strata?

The individual strata vary widely on this item. Faculty from research universities are in substantial agreement (mean = 3.46, *sd* = 0.76) that research is rewarded more than teaching, whereas community college faculty (mean = 1.40, *sd* = 0.72) disagree that research is rewarded more than teaching. On the other hand, faculty from the ten broad teaching fields differed far less in reporting that research was rewarded more than teaching. The range among means was from 2.99 (Agriculture and Home Economics) to 2.24 (Fine Arts), with standard deviations of 1.14 and 1.10 respectively. This pattern clusters much more closely around the grand mean of 2.51 than the pattern among strata. These results suggested that follow-ups to the two-way ANOVAs begin with comparisons among strata of institutions, and that comparisons among the disciplines be conducted *within* individual strata.

I have omitted tables showing the full compilation of descriptive results, as they are extensive.[1] The relevant means are reported in tables summarizing results of post-hoc comparisons.

Tests for Interaction Between "Small" and "Different" Worlds

Two-way ANOVAs were conducted for each of the three dependent variables. Significant ($p < 0.001$) interaction and main effects of Carnegie type and teaching field were found in all three analyses. Tables 2, 3, and 4 report these results.

Teaching as the Most Important Criterion for Promotion: Main Effects

I began by locating the differences among strata of institutions, because the overall effects indicated that these differences were stronger than differences among disciplines I conducted a post-hoc analysis using the Student-Newman-Keuls method to compare the main effects, respectively, of Carnegie types and of teaching field First, the post-hoc comparisons show a striking linearity of results in precisely the predictable direction (Table 5) Community college faculty were most likely to agree (mean = 3 63) that teaching should be the primary promotion criterion, whereas research university faculty were least likely to agree (mean = 2 55) Responses from faculty at the other types of institution arrayed themselves between these extremes and differed from each other statistically

Table 6 shows the Student-Newman-Keuls analysis on means for each of nine broad discipline groupings on both questions The widest difference (natural sciences vs fine arts) is 0 48 on the 4-point scale asking about teaching effectiveness as the primary criterion for promotion More interesting, consistent with Alpert's conceptualization the sequence of means from lowest to highest, shows the "harder" fields placing a slightly lower value on teaching as a criterion for promotion and the "softer" fields preferring a higher value

Research as the Most Important Criterion for Promotion Main Effects

Research university faculty were most likely to agree (mean = 2 58) that research should be the primary promotion criterion (Table 7), whereas community college faculty were most likely to disagree (mean = 1 48) Faculty from the other types of institution responded again in

TABLE 2

Stratum by Teaching Field Effects on Faculty Agreement that "Teaching Effectiveness Should be a Promotion Criterion"

Dependent Variable AGREE TEACHING AS PROMOTION CRITERIA

Source	Type III Sum of Squares	*DF*	Mean Square	*F*	Sig
Corrected Model	112351 701[a]	49	2292 892	3488 887	0 000
Intercept	626557 849	1	626557 849	953376 621	0 000
STRATA	49686 403	4	12421 601	18900 830	0 000
Teaching field	3778 837	9	419 871	638 880	0 000
STRATA * Tch'g field	8583 263	36	238 424	362 788	0 000
Error	340365 821	517904	0 657		
Total	5533041 000	517954			
Corrected Total	452717 522	517953			

[a] *R* Squared = 0 248 (Adjusted *R* Squared = 0 248)

TABLE 3

Stratum by Teaching Field Effects on Faculty Agreement that "Research Should Be the Primary Criterion for Promotion"

Dependent Variable Agree Research as Promotion Criteria

Source	Type III Sum of Squares	*DF*	Mean Square	*F*	Sig
Corrected Model	97536 033[a]	49	1990 531	2974 249	0 000
Intercept	241048 564	1	241048 564	360174 445	0 000
STRATA	46991 216	4	11747 804	17553 553	0 000
Teaching field	1997 631	9	221 959	331 651	0 000
STRATA * Tch'g field	5789 554	36	160 821	240 298	0 000
Error	346609 865	517904	0 669		
Total	2676750 000	517954			
Corrected Total	444145 897	517953			

[a] *R* Squared = 0 220 (Adjusted *R* Squared = 0 220)

TABLE 4

Stratum by Teaching Field Effects on Faculty Agreement that "Research is Rewarded More than Teaching"

Dependent Variable Agree Research Rewarded More than Teaching

Source	Type III Sum of Squares	*DF*	Mean Square	*F*	Sig
Corrected Model	336925 937[a]	49	6876 040	8917 588	0 000
Intercept	339590 450	1	339590 450	440417 445	0 000
STRATA	187063 038	4	46765 759	60650 870	0 000
Teaching field	1261 447	9	140 161	181 776	0 000
STRATA * Tch'g field	4089 787	36	113 605	147 335	0 000
Error	399337 615	517904	0 771		
Total	4011145 000	517954			
Corrected Total	736263 552	517953			

[a] *R* Squared = 0 458 (Adjusted *R* Squared = 0 458)

TABLE 5

Homogeneous Subsets, Stratum Means for "Teaching Should be the Primary Promotion Criterion"

Student-Newman-Keuls[a] [b] [c]

Modified Strata	*N*	Subset 1	2	3	4	5
Research Univ's	146375	2 55				
Doctoral Univ's	86644		2 89			
Comp Univ's	133522			3 38		
Liberal arts	39621				3 55	
Comm Coll's	111792					3 63
Sig		1 000	1 000	1 000	1 000	1 000

Notes 1 = strongly disagree, 4 = strongly agree Means for groups in homogeneous subsets are displayed Based on Type III Sum of Squares The error term is Mean Square(Error) = 0 657

[a] Uses Harmonic Mean Sample Size = 83268 141

[b] The group sizes are unequal The harmonic mean of the group sizes is used Type I error levels are not guaranteed

[c] Alpha = 0 001

TABLE 6

Homogeneous Subsets, Means by Teaching Field for "Teaching Should be the Primary Promotion Criterion"

Student-Newman-Keuls[a] [b] [c]

Program Area Teaching—NSOPF-88	*N*	Subset 1	2	3	4	5	6	7
Engineering	146375	2 92						
Natural Sciences	100768		2 95					
Agric/Home Econ	12537			3 00				
Social Sciences	57686			3 02				
Health Sciences	86662				3 04			
Humanities	72075					3 27		
All Other Fields	59467					3 27		
Business	38638					3 27		
Education	38596						3 33	
Fine Arts	28957							3 40
Sig		1 000	1 000	0 002	1 000	0 605	1 000	1 000

Notes 1 = Strongly disagree, 4 = strongly agree Means for groups in homogeneous subsets are displayed Based on Type III Sum of Squares The error term is Mean Square(Error) = 0 657

[a] Uses Harmonic Mean Sample Size = 35728 622

[b] The group sizes are unequal The harmonic mean of the group sizes is used Type I error levels are not guaranteed

[c] Alpha = 0 001

the same linear order, directly inverse to the value they placed on teaching as a criterion for promotion They differed significantly differing from one another on this scale as well

Table 8 reports the Student-Newman-Keuls post-hoc analysis of the main effects of teaching field on attitudes toward research as a criterion for promotion Again, the spread among disciplines is less than that among Carnegie types Engineering (mean = 2 25) and social sciences (mean = 2 24) valued research as a promotion criterion most highly, business (mean = 1 91) and education (mean = 1 93) rated it as less important. The means are arrayed in a generally inverse order to the means rating the importance of teaching as a criterion for promotion (Spearman Rank Order correlation = -0 77, $p < 0\ 01$).

Clearly, the only faculty group who "agreed" on average that research should be the primary criterion for promotion were those from research universities—and, taking 2 50 as the midpoint on a scale from 1–4, they only barely "agreed" (mean = 2 58) All others ranged from mildly "disagreed" (doctoral university faculty, mean = 2 33) to (very nearly) "strongly disagreed" (community college faculty, mean =1 48) Faculty from all of the strata, on the other hand, at least "agreed" that teaching effectiveness should be the primary criterion for promotion—the differences being in strength of that agreement Even research university faculty rated the relative importance of teaching (mean = 2 55) and research (mean = 2 58) as essentially equal

TABLE 7

Homogeneous Subsets, Means by Stratum for "Research Should Be the Primary Promotion Criterion"

Student-Newman-Keuls[a] [b] [c]

		Subset				
Modified Strata	*N*	1	2	3	4	5
Comm coll's	111792	1 48				
Liberal Arts	39621		1 79			
Compreh U's	133522			1 94		
Doctoral U's	86644				2 33	
Research U's	146375					2 58
Sig		1 000	1 000	1 000	1 000	1 000

NOTES 1 = Strongly disagree, 4 = strongly agree Means for groups in homogeneous subsets are displayed Based on Type III Sum of Squares The error term is Mean Square(Error) = 0 669

[a] Uses Harmonic Mean Sample Size = 83268 141

[b] The group sizes are unequal The harmonic mean of the group sizes is used Type I error levels are not guaranteed

[c] Alpha = 0 001

TABLE 8

Homogeneous Subsets, Means by Teaching Field for "Research Should Be the Primary Promotion Criterion"

Student-Newman-Keuls[a] [b] [c]

Program Area Teaching—NSOPF-88	*N*	Subset 1	2	3	4	5	6	7
Business	38638	1 91						
Education	38596		1 93					
All Other Fields	59467			1 96				
Humanities	72075			1 96				
Fine Arts	28957				2 01			
Agric/Home Econ	12537					2 11		
Natural Sciences	100768					2 13		
Health Sciences	86662						2 19	
Social Sciences	57686							2 24
Engineering	22568							2 25
Sig		1 000	1 000	0 547	1 000	0 004	1 000	0 203

NOTES 1 = Strongly disagree, 4 = strongly agree Means for groups in homogeneous subsets are displayed Based on Type III Sum of Squares The error term is Mean Square(Error) = 0 669

[a] Uses Harmonic Mean Sample Size = 35728 622

[b] The group sizes are unequal The harmonic mean of the group sizes is used Type I error levels are not guaranteed

[c] Alpha = 0 001

"Small Worlds " The Disciplines

The effect of teaching field on how faculty view criteria for promotion appears to vary among the Carnegie types I conducted one-way ANOVAs to examine the effect of teaching field on views about teaching effectiveness and research productivity as promotion criteria All ANOVAs resulted in significant ($p < 0\ 001$) F-tests Given the differences already established among the types of institutions, I conducted these analyses *within* the types I will not report the entire analysis, but will use illustrative results to make the key point disciplinary differences appear greater among research university faculty than among faculty at other types.

Among research university faculty (Table 9), respondents from the fine arts put the highest value on teaching as a promotion criterion (mean = 3 16) and those from natural sciences the lowest (mean = 2 14) This difference, which ranged from "agree somewhat" to "disagree somewhat," indicated dissensus within this category of institution Table 10 reports the same analysis for comprehensive college and university faculty, who showed far more consensus and placed a higher value on teaching as a promotion criterion than did research university faculty This finding supports Finnegan's (1993) conclusion that faculty in this stratum either had chosen more teaching-oriented work or accommodated to the value system at comprehensive colleges and universities. Among community college faculty (Table 11), there was almost universal consensus that teaching should be the primary criterion for promotion. Engineering faculty agreed (mean = 3.51) a bit less strongly than social sciences faculty (mean = 3.71), but there was considerable overlap among the fields. The effect size of discipline was far smaller among both comprehensive college and university and community college faculty than among respondents from research universities.

Research university faculty were similarly ambivalent about research as a promotion criterion (Table 12). Fine arts, Agriculture and Home Economics, Education, and "other" fields all "disagreed somewhat" that it should be a promotion criterion—taking 2.50 as the midpoint on the scale. The other fields "agreed somewhat" that it should be. Table 13 shows, again, that comprehensive college and university faculty held a more consistent view, and that they disagreed "somewhat" that research should be a promotion criterion. Community college faculty disagreed even more strongly that research should be a promotion criterion (Table 14), and again showed greater consensus (less variability) when their responses were aggregated by teaching field.

The results present a paradox. On one hand, it is fair to conclude that faculty, regardless of the type of institution in which they are employed, do support teaching effectiveness as the primary criterion for promotion—and that they typically disagree that research and publication should be the primary criterion for promotion. The post-hoc analyses showed a greater range of views on teaching effectiveness as a promotion criterion among research university faculty, indicating less consensus, than among the others (in ascending order of agreement by stratum). In other words, the more teaching effectiveness is valued as a promotion criterion, the more consensus there appears to be across the teaching fields. Teaching field does not have a similar effect on faculty views about research productivity as a criterion for promotion. Variability among the teaching fields is fairly randomly distributed among the Carnegie types. These results do contain a general hint—to be studied further—that the discipline effects suggested by Clark and Alpert are more powerful at the more research-oriented universities and may be muted in favor of campus communality at the more teaching oriented institutions.

On the whole, then, these results support a general conclusion that norms about the relative importance of teaching and research are much more strongly framed within institutional sectors than they are by disciplines. The "different worlds" of institutional type appear both statistically and practically different.

Most importantly, the results reaffirm the strength of overall faculty commitments to teaching effectiveness and show that there is considerable normative unity *within* the different kinds of institutions Research university faculty are anomalous in that they "agree" on average that *both* teaching effectiveness and research and publication should be primary criteria for promotion

Reward Structures

Given the striking normative unity of faculty concerning the relative value of teaching and research, and having eliminated, for all practical purposes, much substantive divergence among the disciplines on these questions, I examined data on actual reward structures to see if norms and practices converged or diverged NSOPF-93 posed a third survey item with which respondents were asked to agree or disagree on the same 4-point scale "At this institution, research is rewarded more than teaching " The ANOVA results appear in Table 4

The follow-up Student-Newman-Keuls post-hoc comparison (Table 15) detected significant differences among all of the types in precisely the predicted direction—community college faculty are most likely to disagree that research is rewarded more than teaching (mean = 1 40) and research university faculty most strongly agree that it is rewarded more

TABLE 9

Homogeneous Subsets of Research University Faculty for "Teaching Should Be the Primary Criterion for Promotion," by Teaching Field

Student-Newman-Keuls[a] [b] [c]

Program Area		Subset					
Teaching—NSOPF-88	*N*	1	2	3	4	5	6
Natural Sciences	30279	2 14					
Social Sciences	15751		2 35				
Engineering	10666			2 51			
Humanities	14929			2 55			
Business	6345			2 56			
Agric/Home Econ	7223				2 72		
Health Sciences	33784				2 73		
Education	7044				2 75		
All Other Fields	13423					2 79	
Fine Arts	6931						3 16
Sig		1 000	1 000	0 003	0 126	1 000	1 000

NOTES 1 = Strongly disagree, 4 = strongly agree Means for groups in homogeneous subsets are displayed Based on Type III Sum of Squares The error term is Mean Square(Error) = 0 893

[a] Uses Harmonic Mean Sample Size = 10597 174

[b] The group sizes are unequal The harmonic mean of the group sizes is used Type I error levels are not guaranteed

[c] Alpha = 0 001

TABLE 10

Homogeneous Subsets, Teaching Field Means for "Teaching Should Be the Primary Promotion Criterion," for Comprehensive College and University Faculty

Student-Newman-Keuls[a] [b] [c]

Program Area Teaching—NSOPF-88	*N*	Statistics Subset 1	 2	 3	 4	 5	 6
Social Sciences	16878	3.28					
Engineering	4143	3.32	3.32				
Natural Sciences	24317		3.34	3.34			
Agric/Home Econ	2168			3.36	3.36		
Business	14162				3.39	3.39	
All Other Fields	16226				3.39	3.39	
Fine Arts	9388				3.40	3.40	
Humanities	21079				3.41	3.41	
Health Sciences	9367					3.43	
Education	15794						3.47
Sig		0.003	0.037	0.096	0.005	0.011	1.000

Notes 1 = strongly disagree, 4 = strongly agree. Means for groups in homogeneous subsets are displayed. Based on Type III Sum of Squares. The error term is Mean Square(Error) = 0.604.

[a] Uses Harmonic Mean Sample Size = 7941.101

[b] The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

[c] Alpha = 0.001

TABLE 11

Homogeneous Subsets, Teaching Field Means for "Teaching Should Be the Primary Promotion Criterion," for Community College Faculty

Student-Newman-Keuls[a] [b] [c]

Program Area Teaching—NSOPF-88	*N*	Subset 1	 2	 3	 4	 5
Engineering	6357	3.51				
Health Sciences	16861	3.53				
Education	8062		3.57			
All Other Fields	22109		3.57			
Business	11275			3.63		
Fine Arts	6904			3.64	3.64	
Natural Sciences	24052			3.64	3.64	
Humanities	21915				3.67	3.67
Agric/Home Econ	1804					3.69
Social Sciences	10966					3.71
Sig		0.008	0.788	0.635	0.001	0.001

Notes 1 = Strongly disagree, 4 = strongly agree. Means for groups in homogeneous subsets are displayed. Based on Type III Sum of Squares. The error term is Mean Square(Error) = 0.371.

[a] Uses Harmonic Mean Sample Size = 7395.673

[b] The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

[c] Alpha = 0.001

TABLE 12

Homogeneous Subsets of Research University Faculty for "Research Should Be the Primary Criterion for Promotion," by Teaching Field

Student-Newman-Keuls[a] [b] [c]

Program Area Teaching—NSOPF-88	*N*	Subset 1	2	3	4	5	6	7
Fine Arts	6931	2 23						
Agric/Home Econ	7223		2 30					
Education	7044			2 35				
All Other Fields	13423				2 40			
Humanities	14929					2 55		
Engineering	10666					2 56		
Health Sciences	33784					2 57		
Business	6345					2 58		
Natural Sciences	30279						2 75	
Social Sciences	15751							2 89
Sig		1 000	1 000	1 000	1 000	050	1 000	1 000

NOTES 1 = strongly disagree, 4 = strongly agree Means for groups in homogeneous subsets are displayed Based on Type III Sum of Squares The error term is Mean Square(Error) = 0 761

[a] Uses Harmonic Mean Sample Size = 10597 174

[b] The group sizes are unequal The harmonic mean of the group sizes is used Type I error levels are not guaranteed

[c] Alpha = 0 001

TABLE 13

Homogeneous Subsets of Comprehensive College and University Faculty for "Research Should Be the Primary Criterion for Promotion," by Teaching Field

Student-Newman-Keuls[a] [b] [c]

Program Area Teaching—NSOPF-88	*N*	Subset 1	2	3	4
Agric/Home Econ	2168	1 87			
Natural Sciences	24317	1 89	1 89		
Education	15794	1 90	1 90		
Humanities	21079		1 93	1 93	
Health Sciences	9367		1 94	1 94	
All Other Fields	16226		1 94	1 94	
Business	14162			1 96	
Fine Arts	9388			1 96	
Social Sciences	16878				2 03
Engineering	4143				2 04
Sig		0 220	0 009	0 101	0 408

NOTES 1 = strongly disagree, 4 = strongly agree Means for groups in homogeneous subsets are displayed Based on Type III Sum of Squares The error term is Mean Square(Error) = 0 690

[a] Uses Harmonic Mean Sample Size = 7941 101

[b] The group sizes are unequal The harmonic mean of the group sizes is used Type I error levels are not guaranteed

[c] Alpha = 0 001

TABLE 14

Homogeneous Subsets of Community College Faculty for "Research Should Be the Primary Criterion for Promotion," by Teaching Field

Student-Newman-Keuls[a b c]

Program Area Teaching—NSOPF-88	N	Subset 1	 2	 3	 4	 5
Agric/Home Econ	1804	1 40				
Business	11275	1 40				
Natural Sciences	24052		1 46			
Humanities	21915			1 50		
Social Sciences	10966			1 52		
Health Sciences	16861			1 54	1 54	
Fine Arts	6904				1 56	
Education	8062					1 61
Engineering	6357					1 63
All Other Fields	22109					1 64
Sig		0 884	1 000	0 001	0 065	0 062

NOTES 1 = strongly disagree, 4 = strongly agree Means for groups in homogeneous subsets are displayed Based on Type III Sum of Squares The error term is Mean Square(Error) = 0 518

[a] Uses Harmonic Mean Sample Size = 7395 673

[b] The group sizes are unequal The harmonic mean of the group sizes is used Type I error levels are not guaranteed

[c] Alpha = 0 001

TABLE 15

Homogeneous Subsets, All Respondents by Stratum "Research Is Rewarded More than Teaching at this Institution"

Student-Newman-Keuls[a b c]

Modified Strata	N	Subset 1	 2	 3	 4	 5
Comm Coll's	111792	1 40				
Liberal Arts	39621		1 65			
Compreh U's	133522			2 32		
Doctoral U's	86644				3 04	
Research U's	146375					3 47
Sig		1 000	1 000	1 000	1 000	1 000

NOTES 1 = strongly disagree, 4 = strongly agree Means for groups in homogeneous subsets are displayed Based on Type III Sum of Squares The error term is Mean Square(Error) = 0 771

[a] Uses Harmonic Mean Sample Size = 83268 141

[b] The group sizes are unequal The harmonic mean of the group sizes is used Type I error levels are not guaranteed

[c] Alpha = 0 001

than teaching (mean = 3.47). The only "dissonance" appeared in the case of doctoral universities, where faculty agreed (mean = 3.04) that research is rewarded more than teaching, although faculty at the same type of institution also think that teaching effectiveness should be more important than research as a criterion for promotion.

Norms and practices, then, appear to be far more compatible than is usually assumed. In most institutions, teaching is valued more than research, and (although this states the conclusion in the negative) research is not rewarded more than teaching except in doctoral and research universities.

Macroeconomics of Faculty Careers

Even if norms and rewards are largely perceived to be synchronous within the strata of institutions, and even if those norms and rewards appear consistent with institutional missions stratum by stratum—as they do—the actual distribution of rewards professionwide can be asynchronous with professionwide values. This macroeconomic perspective may be important in assessing the attractiveness of academic careers, the holding power of faculty positions, and the equity of compensation among academics.

I correlated responses to the item asking if teaching effectiveness should be the primary criterion for promotion with the total number of classes taught ($r = 0.232$, $p < 0.001$), basic salary from the institution ($r = -0.146$, $p < 0.001$), and overall job satisfaction ($r = 0.035$, $p < 0.001$). The latter figure suggests a very weak correspondence between one's overall satisfaction and a preference for rewards based on teaching effectiveness. This indicates a system that is at least not plagued with dissonance. Faculty would obviously prefer that teaching effectiveness be recognized in proportion to their teaching loads and that rewards match behavior. The negative correlation between actual rewards—salary—and preference for rewards based on teaching effectiveness appears anomalous at first inspection. But the relationship between salary and job satisfaction is practically negligible ($r = 0.075$, $p < 0.001$). If salary, an extrinsic reward, is not substantially related to job satisfaction, then perhaps faculty draw their principal satisfactions from the intrinsic rewards of teaching (even when loads are relatively heavy).

The overriding point, obviously deserving to be further developed in future analyses, is that faculty are motivated to teach, spend most of their time teaching, prefer that they be rewarded for teaching effectiveness, but that institutions may actually reward them for something else. That something else is clearly percentage of time spent on research, which correlates with basic salary ($r = 0.134$, $p < 0.001$). At the same time, and significantly from the point of view of what motivates faculty, percentage of time spent on research is practically not correlated at all with overall job satisfaction ($r = 0.009$, $p < 0.001$). Are extrinsic rewards attached to research—pay, prestige—strong enough to override what appear to be strong intrinsic sources of satisfaction from teaching? And would a closer alignment of extrinsic and intrinsic rewards have a more powerful effect on what faculty choose to do?

Even if the reward structure favors those who do research, faculty who think about moving to a different institution appear to be relatively unaffected by the incentives. I correlated the survey item asking if respondents agreed that going to a different job would be affected by lack of pressure to publish with number of classes taught ($r = 0.158$, $p < 0.001$), basic salary ($r = -0.099$, $p < 0.001$), and perception that research is rewarded more than teaching at their present institution ($r = -0.126$, $p < 0.001$). The last figure suggests that faculty would be attracted to an opportunity that pressured them less to publish than their current institution. But the lower their salary at present, the more likely they would want to move to an institution without pressure to publish. The correlation between moving to an institution with lack of pressure to publish and the number of classes respondents presently teach indicates that faculty would tend not to trade teaching for research—even knowing that higher pay comes with publication—if they had the opportunity.

It would appear then, that faculty do express a general normative unity concerning the value of teaching effectiveness and that they derive measurable job satisfaction from teaching. The strength of intrinsic satisfaction derived from teaching may, in fact, override the power of incentives to do research.

Newer faculty *at all but research universities* tend to focus on job security and research opportunities as they scan the market for job opportunities. Both factors are correlated with the year respondents received their highest degree ($r = 0.167$, $p < 0.001$ for job security, ($r = 0.122$, $p < 0.001$ for research opportunities), meaning that the more recent the degree, the more likely an individual would search for these attributes in a new job. Both factors seem to outweigh alternatives like teaching opportunities ($r = 0.038$, $p < 0.001$), geographic location ($r = -0.020$, $p < 0.001$), or salary ($r = 0.032$, $p < 0.001$), as correlates of year in which respondents received their highest degree.

These data suggest that younger faculty tend to look for jobs where they will have more opportunity to do research, an indication that the marketplace may press younger faculty toward more research activity

This all points to a very mixed—not to say confused—normative environment Younger individuals pursuing their own self-interest in the marketplace seem to understand that research is more valued than teaching as they assess long-term career prospects and upward mobility This pattern is consistent with the trend toward homogeneity forecast by Fairweather (1996) and Riesman (1956) Yet simultaneous pressure to teach well for short-term and institutional rewards is also evident among the norms to which faculty are expected to respond, which is consistent with Clark (1989) and Alpert (1985)

The confusion over whether teaching or research is preeminent among the norms to which faculty respond appears more readily resolvable, then, as a matter of how individuals perceive their long- and short-term situations One might envision that early-career faculty would wish to invest in long-term prospects that maximize long-term benefits In academe, there is little doubt that rewards go to those at research universities and to those who produce more research On the other hand, though, if mobility is less a sure thing, and if doing research at a competitive level is a more remote possibility, then one might rationally invest more heavily in short-term (and intrinsic) rewards—specifically, those associated with teaching and service

Discussion

The results of this study pose a conundrum Faculty express an impressive normative unity about the value of teaching and the intrinsic satisfaction they derive from it These values and satisfactions may even be strong enough to override the extrinsic incentives (money, status, etc) that go to faculty who do more research and publication Given a reasonable level of security and compensation, faculty—on the average—would prefer to teach and to be rewarded for teaching than to seek opportunities for higher pay if it means doing more research and publication

The common value system, associated as it is with the intrinsic satisfaction faculty appear to derive from teaching, extends across disciplines and, with the exception of research universities, across all types of institutions And even there, teaching is considered equally important with research But the explicit reward structure of academe favors research and publication Money and status (but not necessarily job satisfaction) come with research productivity This disconnect between the intrinsic and extrinsic rewards poses problems for policy and practice

On the policy side, the main question would have to be why research ought to be rewarded more than teaching It clearly is, given the correlation between research productivity and pay Should institutions in effect exploit faculty who are willing to sacrifice pay for the intrinsic satisfaction of teaching well? Will prospective faculty see the disconnect and decide to exit (or decide not to enter) the academic job market in order to seek other kinds of work? And who benefits when the rewards go to those who succeed in research and publication? Most compelling, could institutions serve students better by providing more incentives to faculty who are effective teachers, while finding other ways to support research?

On the practical side, institutions may wish to examine their incentives more closely Encouraging research by providing released time, raises, promotions, and recognition may be consistent with an institution's mission in the case of research and doctoral universities, but not in the case of all faculty nor all institutions The cumulative effect of extrinsic incentives to do more research probably runs against the grain of faculty values and motives It probably also runs against the grain of student and public expectations for effective teaching (Without here entering the debate about whether research and teaching are really joint products See Fairweather, 1996, pp 109–113)

Should reward structures be changed? Perhaps the results of this study imply that a unitary reward structure—one size fits all, and that size is based on research performance—is inappropriate in a diverse system of postsecondary education It might be useful to consider unpacking faculty appointments so that the work of teaching is rewarded for its own sake and the work of research rewarded separately, as suggested by Fairweather (1996, p 199) I have proposed elsewhere (Leslie, 1998) that the ranks themselves be reconsidered and pay scales and tenure eligibility reordered appropriately, admittedly a radical reformulation, but one that at least challenges existing assumptions and might provoke a fruitful debate

At all events, the data from the NSOPF-93 survey show that the relative emphases on research and teaching in American higher education have introduced disjunctures between the intrinsic and extrinsic rewards to which faculty respond These disjunctures may affect the willingness of prospective faculty to enter the profession, and they may well distort the work and careers of otherwise dedicated teachers, especially those in the early stages of their careers, who struggle with how to maximize their long-term prospects for mobility, pay, and security Though further research may help understand the issues at a more sophisticated level, these preliminary findings strongly suggest a reexamination of policy and practice governing the rewards and incentives that shape academic careers

Notes

[1]The tables are available upon request Contact the author at dwlesl@wm edu

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Caroline Sotello Viernes Turner

Women of Color in Academe

Living with Multiple Marginality

Introduction

I recall a personal example of how multiple social identities may shape one's opportunities in higher education As a woman of color from a "no collar" class (I come from a farm labor background), when first exploring graduate school options I was discouraged from applying to a master's level program in business by an admissions officer The admissions officer stated that I would not fit I was a woman, a minority, a single parent, I had a background in the public sector, and I had some but not enough math background This would make it nearly impossible for me to succeed as others in the program fit another and opposite profile Although all of this may be true, it did not occur to the admissions officer that this might not be an appropriate state of affairs for student enrollment in the program It was merely accepted as the way things are and should remain I remember being struck by the many ways I could be defined as not "fitting" and, therefore, not encouraged and, more than likely, not admitted I was so easily "defined out" rather than "defined in"

I am now a faculty member at a major research university My current work focuses on the experiences of faculty of color in higher education While pursuing this work, I have had many opportunities to interview, converse with, and read about the lives of other faculty women of color Many continue to speak, although in different ways, about the experi-

Caroline Sotello Viernes Turner is a professor, Educational Leadership and Policy Studies, College of Education, Arizona State University She currently is an American Council on Education Fellow at California State University, Stanislaus

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ence of multiple marginality and being defined out The following quotations from the literature give insight into the lives of faculty women of color, including my own

Lived Contradiction

> I am struck by my lived contradiction To be a professor is to be an *anglo*, to be a *latina* is not to be an *anglo* So how can I be both a Latina and a professor? To be a Latina professor, I conclude, means to be unlike *and* like me Que locura! What madness! As Latina professors, we are newcomers to a world defined and controlled by discourses that do not address our realities, that do not affirm our intellectual contributions, that do not seriously examine our worlds Can I be both Latina and professor without compromise? (Ana M Martinez Aleman in Padilla & Chavez, 1995, pp 74–75)

Ambiguous Empowerment

> Readers who have listened to any group of professional women talk about their work experiences will likely find these stories familiar Like other successful women who work in male and white-dominated professions, women superintendents have much to say about the way they managed to get into such positions despite the anomaly of their gender or race, how they developed confidence in their competence and authority, and what they have accomplished by exercising their professional power They also talk about various forms of gender and race inequality that structure the profession and how they respond to discriminatory treatment I study these familiar stories in order to understand how professional women make sense of their—their ambiguous empowerment—in the context of contemporary American culture (Chase, 1995, p x)

The narrative data presented here portray the lives of faculty women of color as filled with lived contradictions and ambiguous empowerment Chase's (1995) "ambiguous empowerment" based on the lives of women school superintendents also applies to the experiences of faculty women of color Although faculty women of color have obtained academic positions, even when tenured they often confront situations that limit their authority and, as they address these situations, drain their energy For example, in an interview[1] a woman of color who is a full professor and chair of her department observes

> I'm the department chair, and I meet with a lot of people who don't know me—you know, prospective students and their parents And I know that their first reaction to me is that I'm an Asian American woman, not that I'm a scientist or that I'm competent

Statements by faculty women of color typically relay such observations Unfortunately, the lives of faculty women of color are often invisible, hidden within studies that look at the experiences of women faculty and within studies that examine the lives of faculty of color Women of color fit both categories, experience multiple marginality, and their stories are often masked within these contexts[2] This article seeks to redress such shortcomings by presenting experiences expressed by faculty women of color in interviews conducted by the author and in statements published in the higher education literature At times I include personal observations I conclude with a set of recommendations to increase the positive experiences for faculty women of color

How Do Proportions Count?

To begin, it is informative to discuss the importance and implications of representation or lack of representation within organizations Kanter's theory of proportions (1977) first made me aware of the potential effects of marginality on social interactions and mobility in a corporate setting Briefly, Kanter describes the effect of being a "token " She states that the numerical distribution of men and women in the upper reaches of the corporation provide different interaction contexts for those in the majority versus those in the minority (p 206) For example, women in the minority (in very small proportion) inhabit a context characterized by the following

- Being more visible and on display
- Feeling more pressure to conform, to make fewer mistakes
- Becoming socially invisible, not to stand out
- Finding it harder to gain credibility
- Being more isolated and peripheral
- Being more likely to be excluded from informal peer networks, having limited sources of power through alliances
- Having fewer opportunities to be sponsored
- Facing misperceptions of their identity and role in the organization
- Being stereotyped
- Facing more personal stress

Those in the majority (in very high proportion) face the opposite social context They are seen as one of the group, preferred for sponsorship by others inhabiting higher level positions (pp 248–249)

Although Kanter's work articulates the social situation for "tokens" quite well, she primarily speaks to the situation of White women in an organizational setting Kanter's argument suggests that those who differ from the norm within the corporate hierarchy encounter a cycle of cumulative disadvantage, whereas those who fit the norm experience a cycle of cumulative advantage Her theories imply that the more ways in which one differs from the "norm," the more social interactions will be affected within multiple contexts Situations in which a woman of color might experience marginality are multiplied depending on her marginal status within various contexts Often it is difficult to tell whether race or gender stereotyping is operating When asked if she experienced any barriers, one woman of color in academe, quoted in Hune (1998), responded "The answer is yes I think for me personally, it's hard to know if it's because I am a woman or because I am Asian, or both" (p 11). In a conversation with me, another faculty member stated "Dealing with the senior, [mostly white] males in my department has been a huge challenge I don't know if they tend to discount my contributions because I'm new, female, Latina, young, or what Perhaps a combination of all of the above" Rains (1999) calls attention to the complexities that daily pervade the experiences of many women of color in the academy (p 152)

Cho (1996) sheds light on the complexities of defining parity Her work describes bias suffered by Asian Pacific Americans in the academic workplace even though the perception is that they are well represented and, therefore, successful She contends the following (1) numbers showing over-parity in some fields or disciplines mask related under-parity in other fields, (2) over-parity status at the entry level does not mean over-parity status higher up on the promotion ladder, and (3) inferences drawn from an aggregated over-parity status serve to make invisible the varied needs of a heterogeneous population (p 34). Cho's work made me realize that drawing a statistical picture of numerical "inclusion" without reflecting on the context of that inclusion and "quality of life" factors paints an incomplete portrait

Representation and the Creation of Campus Climate

Studies by Harvey (1991) and Spann (1990) further illuminate the importance and complexity of representation in the development of the campus climates within which faculty women of color work According to Harvey, "campus climate" is a "term used to describe the culture, habits, decisions, practices, and policies that make up campus life The degree to which the climate is hospitable determines the 'comfort factor' for African Americans and other nonwhite persons on campus" (p 128) In defining the chilly climate within an academic setting, Spann gives voice to discussions by her study respondents (referred to as panelists)·

> Panelists defined climate as the quality of respect and support accorded to women and minorities on individual campuses and in individual depart-

> ments They believed that climates were created by institutions and could be measured in specific ways, by the number of women and minority faculty members at junior and senior levels, by the social distance between majority and minority group faculty and administrators, by the equitability of work assignments (p 1)

Spann's study implies that nontraditional faculty representation within different locations (i e junior and senior faculty status as well as administrative positions) in the organization determines, in large part, what her respondents describe as campus climate Providing support for the impact of social distance argument, Etzkowitz, Kemelgor, and Uzzi (2000) stress that the existence of a "critical mass" (i e , at least 15% of women in an organization) to address tokenism will not fully address the situation of the minority in an organization They state that "the precise number is less important than the nature of the response the new minority receives from the majority" (p 107)

Representation and Distribution Demographic Data

The Chronicle of Higher Education Almanac (2001) reports that the total of full-time faculty members, including instructor and lecturer, is 568,719, of which 204,794 (36%) are women Of the total women, 29,546 (14%) are women of color Table 1 shows the underrepresentation of women of color in the professoriate by rank and racial/ethnic breakdown

Similar patterns are reported for the Instructor and Lecturer categories, with women of color represented in small numbers in each academic rank Contrary to the "model minority" myth, women in the Asian category are not the most represented of the faculty women of color Hune and Chan (1997) note that Asian Pacific American (APA) men rep-

TABLE 1

Full-Time Women in the Professoriate by Rank, Race/Ethnicity 1997

Women Faculty by Race/Ethnicity	Rank		
	Full Professor	Associate Professor	Assistant Professor
Total Women	32,353	43,522	57,354
American Indian	92	145	285
Asian	1,243	1,633	3,113
Black	1,924	2,674	4,288
Hispanic	767	1,088	1,753
White	28,107	37,586	46,385

SOURCE *The Chronicle of Higher Education Almanac*, 2001 resent three-quarters of all APA faculty, and that APAs have the largest gender gap of any racial/ethnic group (p 57) In the main, faculty women of color primarily occupy the junior, untenured ranks whereas men of color occupy the more senior, tenured ranks For more information on within group patterns, see Carter and Wilson (1997) The American Council on Education (ACE) data also report lower tenure rates for women of color in tenure-track positions (Wilds, 2000, p 101) [3]

Interviews with Faculty Women of Color

In this section I draw from and elaborate on interviews with 64 faculty members of color to analyze the consequences of underrepresentation for women faculty of color [4] Four Asian Pacific American females, fifteen African American females, four Native American females, and eight Latinas were interviewed Most of these women occupy tenured positions, some are high-level academic administrators [5] They spoke about the interlocking effects of race and gender bias in the academic workplace

Manifestation of Interlocking Race and Gender Bias

In general, faculty of color describe racial and ethnic bias in ways that overlap with the concerns raised by women [6] Yet the interlocking effects of gender and race compound the pressures of the workplace environment for faculty women of color They perceive that being both minority and female hampers their success as faculty members [7] This respondent talks about being defined out of consideration for an administrative position because she is an Asian female

> A [university administrative] position opened up and there were a lot of names mentioned—it was clear that an active [internal] person would be named I would hear on the grapevine 'so-and-so's' name I felt that if I were a white male, my name would have been out there I mean I am sure of that But it never was and, you know, there is no question in my mind that race and gender influenced that [8]

Challenges from Academic Old Boy Networks

Although noted in the literature, I uncovered only indirect mention of challenges from academic old boy networks in the interviews One American Indian woman alludes to this situation in her comment "This is hard to believe—for a long time I was the only woman of color on this faculty—for years This campus is very, very white Almost all of the Indian faculty have been men" Montero-Sieburth (1996) similarly states that Latina professors must overcome more obstacles to gain support for academic advancement, because they are farther removed from the academic old-boy network than Latino or White female counterparts Although instances of mentorship across and within racial/ethnic and gender groups exists, scarce resources such as tenured faculty positions and chairs of Chicano studies programs can pit Latinas against Latinos In a similar vein, hooks (1991) states that scholars writing about Black intellectual life focus solely on the lives and works of Black men, ignoring and devaluing the scholarship of Black women intellectuals

Themes that emerge from the study interviews include (1) feeling isolated and underrespected, (2) salience of race over gender, (3) being underemployed and overused by departments and/or institutions, (4) being torn between family, community, and career, and (5) being challenged by students I describe these themes below

Feeling Isolated and Underrespected

One professor expresses the isolation and the added pressure to perform as a woman of color

> I have to think about the fact that black females or any female in the field of [name] that has been predominantly a white male profession, has a problem Many [white] females in the college complain about the fact that up until recently we had never had a full professor in [department name] It's changing, but it's not changing fast And then you add to that being the black female who has to be superwoman

Focusing more on slots filled rather than on expertise or potential programmatic contributions are reported by this newly hired faculty member

> This one dean was writing down all the federal slots that I would fit in as far as hiring And he says, "Okay, you're a woman, you're over fifty-five, you're an American Indian," and then he looks at me and grins He said, "Do you have a handicap?" These schools have to fulfill these guidelines and in getting me they can check a lot of boxes

Salience of Race over Gender

Despite shared gender discrimination, women faculty of color cannot always expect support from their white female colleagues A sense that white women have fared and are faring better than are women or men of color exists This perception speaks to the salience of race over gender An American Indian woman notes "Even the white females they've hired still have a problem with minority students and minority perspectives This is particularly true in [discipline] It is really dominated by Western European notions"

Montero-Sieburth (1996) points out that “being female does not necessarily guarantee the sympathy of mainstream women toward them nor does it offer entry into mainstream academic domains” (p. 84). She quotes one Latina professor commenting on an experience with White female researchers: “I was always singled out when we needed to present research about underserved communities or make statements about the Latino population, otherwise, my research was ignored” (p. 84).

Gains made by white women resulting from affirmative action are not reflected for women of color. A report by the Women’s Environment and Development Organization entitled *Women’s Equality: An Unfinished Agenda* (2000) supports this perception:

> Although all women benefit from affirmative action, white women have been the major beneficiaries in the areas of education, contracting and employment. Indeed, white women have progressed to such a significant degree in the area of education that the challenge of affirmative action is no longer in college admissions but in graduate schools and in such areas as engineering and science for which the numbers of women are woefully small. . . . However, affirmative action is still a vital necessity in higher education for women of color, particularly African American and Latino women, whose numbers still lag in undergraduate admissions and in all levels of graduate and professional schools. (www.wedo.org/book.txt)

However, as stated previously, statistical representation is not entirely revealing of the quality of inclusion or equitable distribution in higher education even for white women in the academy. Within the higher education literature (i.e., Glazer-Raymo,1999), exclusion and the “glass ceiling” phenomenon are well documented as affecting all women. Nonetheless, such statistics fuel the perception that white women, not women of color, have been the primary benefactors of affirmative action.

Being Underemployed and Overused by Departments and/or Institutions

Unlike White male faculty members, women of color say they are expected to handle minority and gender affairs, representing two constituencies. An American Indian female faculty member states:

> Issues of pedagogy and cultural diversity and gender are not the province of just women or just faculty of color. I think that happens too often and that puts the faculty of color person or woman on the spot, to kind of convince or persuade—be this change agent. . . . The faculty members feel the added pressure, but are caught in a ‘Catch-22’ because minority issues are also important to them.

Mitchell (1994) notes that the small numbers of faculty women of color compels them to serve simultaneously as a role model for their profession, race, and gender "The accountability and time demands that the female ethnic professor encounters are especially pressing, given the fact that minority women occupy even fewer positions than minority men"[9] (p 387) In retrospect, this African American woman, who did not attain tenure in her first university states "I am a female and African American I was doing a lot of things in terms of serving on this board, serving on that board, being faculty adviser for one of the professional fraternities " A Latina notes "When you are one of three or four Latinos and being a woman, almost every committee wants you to be on it It gives you opportunities, at the same time, I think, you are expected to do a lot of things not expected of other faculty "

These quotes bring attention to the apparent contradiction and "double whammy" faced by women of color On the one hand, there is too little opportunity and support for the work that is valued (research) (Fairweather, 1996), on the other hand, there is too much demand for work that is not rewarded (committee work, student club advisor, etc) In most instances, service does not lead to tenure or to prestigious positions related to committee service, such as administration Junior faculty members are particularly at risk Institutional reward systems can deny tenure and security of employment to those who spend more time on service than on research and scholarship, even when the service is assigned to meet institutional needs

Being Torn Between Family, Community, and Career

Many faculty women of color speak about being "psychologically divided between home and career" or between community and career They seemingly have two choices sacrifice family and community commitments for several years to focus almost exclusively on their careers, or honor nonwork commitments, an essential part of their identity, at the risk of not earning tenure Although policies to accommodate faculty needs for maternity and family leave and childcare are becoming common, little attention has been paid in the academy to minority faculty's desire to contribute actively to their racial or ethnic community (for further discussion see Townsend & Turner, 2000) For example, for many Native Americans, including faculty members (Stein, 1996), "the social value and preeminent goal in life is the survival of the Indian people" (Cross, 1996, p 335) Similarly, some Chicano faculty "maintain a strong affiliation with their community and feel a strong sense of responsibility to improve the status of other Chicanos in the larger community" (de la Luz Reyes & Halcon, 1988/1996, p 145, see also Rendon, 1992/1996) For most African American faculty, ties with the Black community are extremely important partly because of "the African heritage of communalism" (Gregory, 1995, p 7)

Being Challenged by Students

Faculty women of color perceive that they are more likely to have their authority challenged by students than are White male professors[10] As examples, consider the following

> If a white male professor says something that's wrong in class, my observation is that even if the students perceive that it's wrong, they may say something outside of class, but they hesitate to challenge a 50+ white male professor They feel quite comfortable challenging an African American woman in class
>
> Regarding interaction with students, there's a different expectation for us when we walk in as a minority, they automatically assume that we know less than our colleagues in the same department It doesn't matter whether it's undergraduate level or graduate level They challenge females more So, I wear dark, tailored suits and I am very well prepared They don't hire us unless we're prepared anyway, but students think we are here because of our color

Many women faculty of color are called on to advise students of color and others studying in similar fields Because of their scarcity, faculty women of color can face great out-of-class instructional loads One junior faculty member of color describes her experience as teacher/mentor

> As teacher/mentor, the main issue has been balancing When I first arrived, I was overwhelmed by the amounts of students who came to me to ask for guidance (not always in so many words)—mostly women of color, feeling like most other faculty did not acknowledge their existence It is difficult to balance this with the research and publication pressures, and course preparation

Another female faculty member states

> It is hard to say no, especially on minority issues, when there are so few people I realize how few people are available [to address these issues] I sit on 53 doctoral committees Doctoral students take a lot of time for the dissertation process I turned down being chair of one doctoral student's committee and she nearly cried She was a good student studying multicultural issues, but I can't chair these committees I'll wind up spending all my time correcting dissertations and not doing my own writing

Andrews (1993) describes this situation as an "emotional drain "

> The Black woman professor is often called upon to serve as mentor, mother, and counselor in addition to educator in these settings The consequences of these multifaceted role expectations by students are compounded by the existence of similar demands placed upon Black women by colleagues and

> administrators If we consider the fact that Black women often also have these same expectations to meet at home, it is abundantly clear that in many cases something has to give (p 190)

Cruz (1995) summarizes her reaction to such experiences "It was not simply that my colleagues and students made me feel different, it was that my difference was equated with inferiority" (In Padilla & Chavez, 1995, p 93)

Increasing Positive Experiences for Faculty Women of Color

In this section I make recommendations to assure the affirmation, validation, and valuation of contributions faculty women of color bring to the academy

Validate Service and Teaching

Gregory (1995) recommends the transformation of tenure and promotion criteria by exploring ways to expand the definition of scholarly activity and to place more importance on teaching, service, and curriculum development activities Baez (2000) stresses that scholars must condemn higher education practices and norms that produce such conflicting situations with differential rewards for faculty of color, especially for minority scholars dedicated to race-based service Baez contends that "service, though significantly presenting obstacles to the promotion and retention of faculty of color, actually may set the stage for a critical agency that resists and redefines academic structures that hinder faculty success" (p 363) If service is seen as addressing social justice issues, it can be a source of pride and validation for many minority faculty It gives them much needed connection with communities of color within and outside of the academy as a whole, which can translate into supportive networks for the individual providing the service Baez reminds us of the importance and relevance of such service The key is finding ways to validate it, not to discourage faculty women of color from engaging in it

Promote Networking and Mentoring

Networking and mentoring are mentioned many times by faculty women of color as key components of individual and group success and progress Aleman (2000) and Cuadraz and Pierce (1994) identify participation in formal and informal networks as critical to their persistence in academe Ladson-Billings (1997) speaks about the importance of finding intellectual peers "interested in the issues of race and racism in the same way I was" (p 57) This Asian American faculty member describes one of her networking/mentoring activities

> I know a woman who's Chinese She's in the [name of department] so we have no overlap in the field, but I and another woman in my college who's in computer science have sort of taken it upon ourselves to keep her from getting isolated We're not even in her college, but we have lunch with her—I like her a lot, so she's become my friend, but we started this by just trying to keep her from being so isolated over there in the [name of department] I feel so strongly about trying to combat isolation It's sort of hard because we have families but [it is important to our persistence]

Colleges and universities can facilitate opportunities for faculty women of color to get together For example, colleges can host social gatherings and academic activities targeted at promoting networking among its faculty women of color Such activities could include providing seed money for collaborative research of interest to women of color across disciplines, hold national or local conferences with the intent of bringing together faculty women of color, and host open forums that showcase research conducted by faculty women of color

Provide Professional Development Sensitive to Campus Political Dynamics

Colleges and universities can provide professional development experiences that assist a new faculty woman of color to overcome challenges of multiple marginality One example from my own experience is the participation in a teaching development program provided at the University of Minnesota Participants in this program worked in small groups guided by senior faculty members who were recipients of university teaching awards In my view, the best mentor teachers grasped the need for faculty members to understand the technical side of teaching as well as the classroom dynamics that can take place when a person of color or a woman steps in front of students who expect a White male teacher Such mentor teachers can help newer faculty to see and address power relationships that may develop in a classroom that challenge the authority and credibility of a woman of color Mentor teachers can also encourage new faculty members to accept their leadership role as the professor Participating in such a program can foster understanding of group dynamics in the classroom It can affirm different styles of teaching, such as fostering collaborative and small-group work These programs can be used to inform not only faculty women of color but the rest of the campus community as well

Break the Conspiracy of Silence

Programs like the one described above can help to uncover the challenges faculty women of color may face in the classroom and on campus generally Ng (1997) stresses that whether we belong to minority groups or not, educators must "break the conspiracy of silence that has ensured the perpetuation of racism, sexism, and other forms of marginalization and exclusion in the university" (p 367) In order to address the conflicting and anxiety provoking situations as described in this article, academic administrators and policymakers must acknowledge and come to understand the racial and gender composition of their departments and the effects such composition has on the success or failure of faculty women of color

Promote a Welcoming Environment

Most faculty women of color contend that a healthy, supportive, rewarding, inclusive environment is good for everyone Kanter (1977) and others reveal that one crucial component in producing such an environment *is to increase the representation of women of color across the campus*—as students, administrators, and faculty This representation must also be reflected across student (undergraduate, graduate) and professional ranks (for example, across the faculty ranks of assistant, associate, and full professor) However, Harvey (1991) and others remind us of the critical importance of *developing a campus culture that values and welcomes the contributions made by faculty women of color* to the academic enterprise, that is, acknowledging that the inclusion of faculty women of color contributes to the academy as a whole Cole (2000) emphasizes this point by stating that diversity—in the people, the ideas, the theories and the perspectives, and experiences and the pedagogy in American higher education—is crucial to a quality education (p 2) Such support promotes a comfort level that can increase productivity at work and persistence on campus

Accommodate Conflicts of Commitments

Townsend and Turner (2000) state that institutional leaders must address the challenges and better accommodate conflicts of commitments described by faculty women of color to ensure that these faculty members will stay at their institutions Specific steps include the following

1 Identify and acknowledge institutional norms and policies that place women faculty of color at a disadvantage resulting from their family and community commitments

2 Once these norms and policies are identified, promote the development of new ones that will support rather than punish community and family involvement Such changes will benefit all faculty who take on a nurturing and supportive role in their communities and families

3 Include women of color in the identification of problems and solutions

4 Examine initiatives used by private corporations rated as "family friendly" and evaluate them in light of their appropriateness for a higher education setting

Internal Rewards and Satisfactions Contributing to the Reshaping of the Academy

Although confronted by unique pressures, interviews and conversations with faculty women of color reveal the many satisfactions that attract them to and keep them in academia. Foremost among their reasons for becoming faculty members are the intellectual challenge, freedom to pursue research interests, and the opportunity to promote racial/ethnic understanding The most commonly articulated personal rewards include satisfaction with teaching, supportive working relationships, and sense of accomplishment. Contributions to scholarship and new knowledge are also important I will focus here on the desire of faculty women of color to contribute to the reshaping of the academy as described by faculty women of color themselves

A Sense of Accomplishment

A female American Indian faculty member enthusiastically describes one accomplishment contributing to organizational change and multiculturalism on her campus "We initiated an endowment to establish an endowed chair for American Indian education, and we managed after years of advocacy to get well over a million dollars for that chair So the chair was finally established It will be forever more"

Aligning Service with Research

Consistent with Baez, I have chosen to consider myself a scholar advocate to alleviate some of the tension between service and research I conduct research to illuminate issues of access and equity for racial/ethnic groups in higher education As a direct result of this work, I serve racial/ethnic communities in higher education, professional organizations, and the university with which I am affiliated I have the opportunity to address students as well as administration and faculty audiences who are interested in implementing diversity within academe Graduate students and faculty of color, at times, come up to me and say that my work provides validation and support for the work in which they are engaged From this experience, such service, tightly connected with research, confers needed energy, revitalization, and life meaning for my work Closely aligning the many tasks in academe has helped to sustain my persistence in the field

Alignment with Communities of Color and Gender

Professor bell hooks, in a 1995 interview for *The Times Higher Education Supplement*, states that "assimilation, touted as an answer to racial divisions, is dehumanizing, it requires eradication of one's blackness so that a white self can come into being" (Griffiths, 1995, p 20) Doing work that closely aligns oneself to communities of color and gender may provide a way to maintain a sense of self as a woman of color Delgado-Gaitan (1997) describes this process as a kind of dance "My life has been a 'TINKLING' dance in which I have hopped between two clanking bamboo sticks, skillfully avoiding getting a foot severed as I jumped in and out I have searched to find the space that is a synthesis of my worlds, the 'borderland' or meeting ground that synthesizes my identity, experience, feelings, beliefs, and dreams" (p 37)

Contributions to New Knowledge

Johnetta Cole (2000) asserts that "education promotes critical reflection and stimulates efforts for social change" (p 1) Turner (2000a) and Neumann and Peterson (1997) describe faculty women of color as important contributors to new knowledge in academe The contributions of one faculty woman of color[11] led to the development of research and teaching in areas such as the history of African American women Many faculty women of color see themselves as reflecting and projecting their realities in the work that they do As professors they bring their experience and knowledge into campus dialogues in the classroom, in the literature, and in their communities Faculty women of color provide guidance and support for young women of color who are their students or who are their colleagues in the professoriate They advocate for the admission of talented women of color into the student and faculty bodies Their presence encourages others to pursue individual educational goals Such contributions by faculty women of color are described in the following quote

> The academy is shaped by many social forces More women of color are defining and redefining their roles within it New ways of thinking about teaching and research have provided spaces for women scholars to challenge old assumptions about what it means to be in the academy While both the women's movement and black [ethnic] studies movement have helped increase the parameters of academic work, new paradigms emerging from black women's scholarship provide me with a liberatory lens through which to view and construct my scholarly life [12] The academy and my scholarly life need not be in conflict with the community and cultural work I do (and intend to do) " (Ladson-Billings, 1997, p 66)

Conclusion

Over the last decade, I have interviewed many women of color who are undergraduate students, graduate students, and who are faculty members Many of these individuals feel that to succeed in academe requires them to leave themselves, who they are, at the door of graduate education and the tenure process This loss would be a tragedy for both current and future faculty women of color Acknowledging who we are and how that affects our approaches to research as well as what we find of scholarly interest may result in a more viable work environment for women faculty of color now and in the future

> Each person brings a unique cultural background to their experience Who you are shapes the types of questions you ask, the kinds of issues which interest you, and the ways in which you go about seeking solutions Although doctoral student and faculty socialization processes are very strong, we must not lose ourselves in the process of fitting in [Also, as demonstrated here,] the backgrounds [faculty women of color] bring to academia need not take a back seat They can be placed in the foreground of our work (Turner, 2000b, p 133)

By bringing ourselves through the door and supporting others in doing so as well, we can define ourselves in and claim unambiguous empowerment, creating discourses that address our realities, affirm our intellectual contributions, and seriously examine our worlds

Notes

[1] Throughout this text I use quotations to exemplify issues discussed Quotations from interviews are observations made by faculty women of color who participated in a study conducted by the author and Samuel L Myers, Jr (2000)

[2] Even though common themes are noted in this essay, it is also important to acknowledge that all women of color are not the same and that institutions should not expect them to behave as such Furthermore, women of color have a range of interests and ways in which they choose to contribute to the academy

[3] Numbers of full-time faculty in higher education are also noted in the latest American Council on Education (ACE) Status Report (Wilds, 2000, p 98) These numbers show that women of color comprise 14% of the professoriate, the same percent as reported in *The Chronicle of Higher Education Almanac* for Fall, 1997 Of the total full-time faculty (538,023) in 1995, 187,267 (35%) were women, 26,247 of the women were women of color (14%) These data show that across ranks and tenure status the proportion of full-time women faculty of color is low

[4] See Turner and Myers (2000) for a detailed description of the study design

[5] Respondents were located in the biological and physical sciences as well as in the social sciences, humanities, and education Interviews solicited views on reasons for pursuing an academic career, the pathways that led them to the current position, professional development experiences, experiences as faculty members, general experiences in the academic workplace, future plans and expectations with regard to leaving academia, and recommendations for improving the recruitment and retention of faculty of color

[6] Respondents of color in the Turner and Myers study (2000) reveal that they face covert and overt forms of racial and ethnic bias Manifestations of bias described by faculty respondents include (1) Denial of tenure or promotion due to race/ethnicity, (2) being expected to work harder than whites, (3) having their color/ethnicity given more attention than their credentials, (4) being treated like a token, (5) lack of support or validation of research on minority issues, (6) being expected to handle minority affairs, (7) too few minorities on campus

[7] Similar results are reflected in *Through My Lens*, a video production by Women of Color in the Academy Project at the University of Michigan (Aparicio,1999) One featured participant speaks of the intersection of race and gender in the academy "I think that the university is committed but oftentimes has a hard time understanding the position of women of color, certainly understanding how color, how culture and race, make an impact on one's career is a challenge And then, understanding how being a woman impacts one's career is a challenge as well "

[8] In the literature, Ideta and Cooper (1999) note that "Asian women leaders seem to live in the confines of paradoxes As Asian females they struggle in organizations which define leaders as primarily male and White Behaviors which are typical of leaders (displays of power, authority, and fortitude) are considered atypical for women and doubly atypical for Asian women expected to be compliant and subservient in their behavior" (p 141)

[9] Padilla (1994) refers to being expected to handle minority affairs as "cultural taxation," "the obligation to show good citizenship toward the institution by serving its needs for ethnic representation on committees, or to demonstrate knowledge and commitment to a cultural group, which may even bring accolades to the institution but which is not usually rewarded by the institution on whose behalf the service was performed" (p 26) He goes on to state that as long as people of color are scarce, such expectations will continue to be the norm

[10] One White male professor quoted in *Silences as weapons Challenges of a Black professor teaching white students* (Ladson-Billings, 1996, p 78) states that students will perceive him as objective, scholarly, and disinterested when teaching issues related to class, race, and gender On the other hand, minority females teaching in these areas are often seen as self-interested, bitter, and espousing political agendas His observations mirror comments made by women of color about their classroom experiences (see Committee on Women in Psychology and American Psychological Association Committee, *Surviving and Thriving in Academia A Guide for Women and Ethnic Minorities*, 1998)

[11] For the story of Darlene Clark Hine see *Shattering the Silences* (Nelson & Pillett, 1997), a highly acclaimed PBS Documentary The video portrays the lives of eight scholars of color in the humanities and social sciences, illustrating how they transformed and were transformed by their respective disciplines and institutions These scholars bring new research questions and fresh perspectives to the academic enterprise

[12] One of the examples Ladson-Billings provides her reader is the influence the work of Patricia Hill Collins (1991) has had on her work She states that Collins provides a theoretical and conceptual platform on which she rests her methodology Collins asserts that knowledge claims must be grounded in individual character, values, and ethics She further contends that "individuals who have lived through the experiences about which they claim to be experts are more believable and credible than those who have merely read or thought about such experience" (p 209)

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Ann E. Austin

Preparing the Next Generation of Faculty

Graduate School as Socialization to the Academic Career

The long anticipated retirement of significant numbers of senior faculty members is occurring at a time when societal expectations of academic institutions are expanding. Parents, employers, and legislators are interested in the quality of teaching provided by colleges and universities. Learning outcomes are emphasized, including traditional subject matter expertise and skills as well as abilities to use technology effectively, integrate and apply knowledge, and solve open-ended problems. Legislators and community leaders call for greater attention by faculty members to apply knowledge to solve societal problems. These same constituencies expect university research to aid local and regional economic development. All of these expectations take place for the most part within tight financial constraints. Without doubt, the individuals replacing retiring faculty members must demonstrate a wider array of talents than their predecessors, as well as higher levels of productivity (Fairweather, 1996; Massy & Wilger, 1995). In this context, the experiences of new faculty (Boice, 1992; Sorcinelli & Austin, 1992; Rice, Sorcinelli, & Austin, 2000) are characterized by stress, pressure,

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Ann E. Austin is associate professor of higher, adult, and lifelong education at Michigan State University.

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and uncertainty Institutional leaders who hire new PhD graduates for faculty positions, analysts of higher education, and potential faculty members, including graduate students, raise questions about the appropriateness of graduate program preparation for the changing workplace contexts that the next generation of faculty will face My thesis is that the socialization process in graduate school must change substantially for new faculty members to work effectively in the ever changing world of higher education

Assessing the quality of the PhD experience as preparation for the professoriate is complex Many PhDs will work outside of academe instead of becoming professors Moreover, much of the structure of graduate programs serves as much to make the institutions work effectively as to prepare graduate students for future professional roles Graduate students serving as teaching assistants provide much of the undergraduate instruction at the typical large university The research mission of the American university depends in part upon the work of graduate students who serve as research assistants for professors Although teaching and research responsibilities surely can provide training opportunities for the future faculty, these assistantship roles sometimes are structured more to serve institutional or faculty needs than to ensure a high quality learning experience for graduate students A graduate student teaching Freshman English, for example, might already have taught the class several times and could benefit from a different teaching experience

This article examines doctoral education as socialization for the professoriate It addresses the question of whether or not the graduate school preparation process is adequate and appropriate given the academic workplace these scholars will enter In the first section I discuss key points from the literature on preparation for the faculty career, arguing that the doctoral experience is the first stage of the academic career In the second section, I examine the workplace context into which PhD graduates will move for employment The argument here is that the academic workplace is significantly different from that which has characterized higher education in the past In the third section I analyze graduate education as experienced by graduate students I use data from a four-year qualitative, longitudinal study that examined the graduate school experience of a group of individuals preparing to be faculty members In the fourth section I compare key findings from this qualitative study with findings from other recent quantitative studies of PhD students to identify discrepancies between the academic workplace context into which new faculty will be hired and the graduate school socialization process I conclude with recommendations for reforms that will realign graduate education with the realities of the academic workplace

Graduate Education as Socialization to the Academic Career

Faculty careers can be conceptualized as including early, mid-career, and senior faculty periods (Baldwin & Blackburn, 1981, Boice, 1992, Finkelstein & LaCelle-Peterson, 1993, Menges, 1996, Rice, Sorcinelli, & Austin, 2000, Sorcinelli, 1992, Sorcinelli & Austin, 1992) Some authors incorporate the graduate school period, including the teaching assistant experience, as part of the early career period (Anderson, 1998, Anderson & Swazey, 1998, Golde, 1997, 1998, Golde & Dore, 2000, 2001, Nyquist & Sprague, 1992, Sprague & Nyquist, 1991) Although this work has shed light on the graduate experience, it focuses mostly on quantitative description Long-term, qualitative research focused on exploring the voices of graduate students over time has not been part of the previous literature on graduate education

The literature on socialization implies that an individual's understanding of the faculty career begins with the graduate school experience or even earlier, not with the first faculty position Van Maanen (1976) posited that socialization to an organization and a role begins with an anticipatory learning period during which prospective members begin to assume the values and attitudes of the group they wish to join As socialization or a preparatory experience for the faculty career, the graduate experience is the crucial point in time to determine whether or not students are exposed to the types of skills and expectations likely to confront them on the job While Bess (1978) argued that anticipatory socialization begins even prior to graduate school, he also saw the graduate school period as a time of socialization, asserting that this period involves "the confirmation through socialization of preexisting behavior tendencies" (p 312)

Socialization is a process through which an individual becomes part of a group, organization, or community The socialization process involves learning about the culture of the group, including its values, attitudes, and expectations (Corcoran & Clark, 1984, Staton & Darling, 1989, Van Maanen, 1976) Graduate students experience several socialization processes simultaneously socialization to the role of graduate student, socialization to the academic life and the profession, and socialization to a specific discipline or field (Golde, 1998, Staton & Darling, 1989) Golde (1998) has argued that graduate students face four general socialization tasks First, they must grapple with intellectual mastery and the question of "Can I do this?" Second, they must grapple with the question of "Do I want to be a graduate student?" Third, they must learn about the academic profession and ask "Do I want to do this work?" Fourth, they face the task of becoming part of a department where they may ask "Do I belong here?"

This article contributes to our understanding of how graduate school functions as a socialization process for those who aspire to the academic career, identifying the gaps or discrepancies in that socialization process The study discussed in this article was guided by the view that socialization is a dialectical process through which newcomers construct their particular roles as they interact and engage with others (Staton & Darling, 1989, Staton-Spicer & Darling, 1986, 1987, Zeichner, 1980) Socialization is a two-way process where individuals both influence the organization and are influenced by it (Tierney & Bensimon, 1996) Socialization is not a static process in which newcomers only receive the imprint of the organization It is a dynamic process in which the individual newcomer brings experiences, values, and ideas into the organization Three perspectives on graduate school as a socialization process are important (a) the way the socialization process occurs in graduate school, (b) the conceptions that graduate students develop about the academic career and faculty role, and (c) the students' responses to and suggestions concerning graduate education as a socialization process

Any discussion of graduate preparation and socialization for academic careers must take into account disciplinary contexts (Austin, 1990, Becher, 1984, 1987, Biglan, 1973, Clark, 1987, Kuh & Whitt, 1988, Tierney, 1990) Each discipline uniquely defines and legitimates research questions, research methods, the relationship between teaching and research, and work relationships between scholars These disciplinary variations can make significant differences in the lives of faculty members For example, a faculty member in English is likely to conduct research alone, while a professor of chemistry is more likely to have a team of colleagues and graduate students with whom he or she collaborates Humanities scholars tend to value books and monographs as products of intellectual work, whereas natural and physical scientists, and many social scientists, tend to favor refereed articles

The Workplace that Graduates Will Enter

The modern academic workplace is characterized by student diversity, new technologies, changing societal expectations, a shift in emphasis toward the learner, expanding faculty work loads, and a new labor market for faculty Edgerton, Rice, Chait, and Gappa (1997), Rice (1998), and Schuster (1999) believe that these characteristics indicate a major transformation in higher education, perhaps as extensive as the one that occurred in the latter part of the nineteenth century, when the modern American university emerged

Changing approaches to teaching and learning Irrespective of institutional type, the modern college or university increasingly is encouraged by external constituencies to strengthen undergraduate education by shifting from an emphasis on teaching to an emphasis on learning (Barr & Tagg, 1995). Focusing on the learner, rather than the teacher, leads to new expectations for how the faculty will enact their roles. New faculty members are likely to need to know how to support and advise students, and how to facilitate learning through discussions, utilize a range of collaborative and other innovative learning processes, and link classroom learning with life experiences and service in the community.

Increasing diversity of students. Students are becoming more diverse in their backgrounds, needs, motivations, and expectations (Keller, 2001, Syverson, 1996). Faculty members must have some appreciation and preparation for working with students of diverse ages, genders, ethnicities, capabilities, levels of interest and commitment, life circumstances, and prior educational preparation. The diversity of students is one reason that faculty members must learn how to use a broad range of teaching strategies.

New technologies. As more academic institutions and their competitors incorporate virtual education into degree programs, faculty members will be expected to use technology-mediated teaching and learning strategies, as well as provide distance-learning opportunities (Connick, 1997, Gilbert, 1996, Green, 1996, 1999, Levine, 2000). At many institutions, faculty members are encouraged to teach on-line and to participate in curricular development that draws on delivery or learning options made available through new technologies. Such competencies increasingly are evident in advertisements for new faculty positions. Teaching on-line involves skills above and beyond those used in traditional in-class courses.

Changing societal expectations of the academy. The modern academic environment is defined in part by new expectations and pressures from the broader society (Fairweather, 1996). Parents raise questions about the quality of the undergraduate experience their children receive. Employers express concern about the skills and abilities of bachelor's degree recipients who enter the workplace. Legislators now sometimes mandate teaching expectations for faculty members, such as the Ohio policy of requiring the faculty to spend 10% more time on teaching. Community leaders ask how the university and its faculty contribute to public service. As they seek to respond to societal expectations and to demonstrate accountability, many campuses have adopted Boyer's (1990) notions of "scholarship" to include the scholarship of discovery, the scholarship of teaching, the scholarship of integration, and the scholarship of engagement or application.

The implications for new faculty members are extensive In addition to the traditional expectations for teaching, research, and service, they must understand the broader expectations for scholarship and develop expertise in the different forms of scholarly work Increasingly, faculty members must be able to collaborate with colleagues in other disciplines and with individuals and organizations outside the academic environment.

Demanding faculty life styles Many new faculty members experience overload and stress from multiple demands Rice, Sorcinelli, and Austin (2000) reported that new faculty members struggle with juggling multiple and sometimes conflicting professional responsibilities, and with achieving balance between professional and personal lives Studies of new faculty also consistently report that faculty newcomers are isolated, perceiving a lack of collegiality that contradicts their expectations of faculty life (Menges & Associates, 1999, Rice et al , 2000, Sorcinelli & Austin, 1992, Tierney & Bensimon, 1996) These pressures and disappointments cause some new faculty members to consider leaving the profession almost before embarking on their careers (Rice et al , 2000) The importance of the intrinsic aspects of the work seems to be the critical motivator for many, even when pressures cause doubt and concern (Rice et al , 2000)

Changing conditions of the academic job market The traditional full-time tenure-stream position is no longer the norm In 1997, according to the U S Department of Education, 43% of the instructional faculty and staff in American colleges and universities were employed part-time ("The Nation," 2000) Many faculty appointed to full-time positions receive term rather than tenure-stream appointments (Schuster, 1999, Finkelstein, Seal, & Schuster, 1998) Schuster (1999) has calculated that the faculty members who hold regular tenure or tenure-stream appointments are now outnumbered by those in term and/or part-time situations

The academic labor market is both national in scope and quite tight. For at least a quarter of a century, the humanities have had an oversupply of new PhDs and undersupply of full-time faculty positions In the sciences, the imbalance in supply of positions and production of PhDs has become a widespread concern more recently Consider the life sciences as an example Consistent with the belief that academic science would continue in a trajectory of growth, universities produced 47% more PhDs in the life sciences between 1987 and 1996 (Tilghman, 1998) During this same time period, the supply of resources to support academic science actually declined Whereas 61% of individuals granted PhDs in the life sciences in 1963–64 were in tenure-stream appointments ten years later, the comparable figure for those who completed PhDs in

1985–86 was only 38% In contrast, the latter group was twice as likely to end up in industry (24% versus 12%) Life science employment in "permanent" positions in academe, industry, or federal or government laboratories declined from 87% in 1975 to 73% in 1995 (Tilghman, 1998)

The precise statistics vary by discipline and field Across fields, however, new doctoral graduates are facing a decline in tenure-stream positions and an increase in part-time and nontenure-track full-time positions Although research universities prepare most future faculty members, they represent only a small portion of all institutions It is very likely that many new faculty members will work in a comprehensive university, community college, or liberal arts college, each more oriented toward teaching and public service than research universities

Implications for PhD graduates Traditionally, the organization of faculty work at most institutions has been based on the assumption that each individual faculty member engages in a full range of responsibilities More recently, the notion is emerging of organizing faculty work around variable individual assignments—sometimes called "unbundling" the different dimensions of faculty work Though it is possible that the organization of faculty work may change in significant ways in coming years, this article is based on the assumption that, for the foreseeable future, institutions will continue to expect full-time faculty members to demonstrate multiple skills and abilities as they engage in a full range of academic work assignments Admittedly, most institutions typically do not delineate specifically how faculty members will engage in the range of work activities The allocation of faculty time to various tasks is likely to be messy and largely based on the discretion of the individual However, implicit institutional expectations tend to require individual faculty members to participate in the diverse responsibilities that support the range of missions of the particular institution Thus, each of the changes just discussed has significant implications for the kinds of knowledge, skills, and abilities that new faculty members will be expected to demonstrate These areas of knowledge, skill, and ability include knowledge of a range of teaching strategies, including technology-mediated strategies, understanding the implications of student diversity for teaching, advising, and working with students, knowledge of and ability to engage in various kinds of scholarly work, ranging from the traditional scholarly work of discovery to the scholarships of teaching, integrating bodies of knowledge, and applying knowledge to problems, ability to work across disciplines and to collaborate with colleagues with different perspectives, ability to balance multiple demands and set priorities, awareness of the role and responsibility of the academy in American life and society, and knowledge of the cultures and expectations that characterize the various types of higher education institutions Realistically, those who aspire to be faculty members should learn about the job options outside academe given the limits to employment opportunities within the academy

At a recent conference on "Re-envisioning the Ph D," held in Seattle in April, 2000, Leroy Hood (2000), president and director of the Institute for Systems Biology, offered a long list of the skills and abilities that students should develop while working on a PhD The list certainly included the ability to do research and to read and analyze literature critically It also included skills in communication, computation, teaching, mentoring, partnering, teamwork, managing complexity, and maintaining appropriate standards and expectations He went on to argue that the changing world of employment for PhDs, an employment world that necessarily includes positions outside academe as well as in it, requires graduates to develop a philosophy about scholarship, education, and leadership, accommodate diversity, and understand how to continue to learn and adapt to changing situations It is worth noting that all the skills and abilities discussed in this section represent areas in which PhD graduates might be expected to have not only good baseline training but also a commitment to continued learning and adaptability

How do these lists of the knowledge, abilities, and skills required by the changing academic workplace relate to the socialization and preparation processes experienced by PhD students today? We turn now to research on the socialization process in graduate school as perceived by doctoral students

The Graduate Experience as Preparation for the Academic Career

The research discussed in this section involved a four-year, longitudinal, qualitative study that followed a sample of graduate students who aspired to the professoriate and who held teaching assistantships at the start of their graduate programs The participants were in various disciplines, including humanities (English and music), sciences (chemistry, zoology, engineering, and mathematics), social sciences (history, psychology, and communication), and professional areas (business, journalism, education, and food science) at three universities Two of the institutions were large doctoral-granting, research-oriented universities, and one was a comprehensive, master's-granting institution that primarily prepares many teachers The sample studied was selected to include diversity in terms of sex and disciplinary home Despite careful effort when developing the sample, the diversity in race and ethnicity was quite modest and less than desired. This article draws on the data from the 79 participants at the two doctoral-granting institutions.

Members of the research team conducted in-depth interviews with each graduate student participant every six months from the start of their doctoral study for a four-year period. The open-ended interview questions invited participants to reflect on their experiences as graduate students and as teaching assistants, their disciplinary interests, career aspirations, perceptions of the faculty career, observations about faculty roles and responsibilities, and suggestions about the preparation appropriate for aspiring members of the professoriate. Each interview was taped and transcribed. Analysis involved repeated readings of each transcript, and the development, refinement, and use of coding categories around themes that emerged from the data. The two or three researchers at each location checked each other's coding consistency. The full research team regularly discussed interpretations and implications of the data.

The discussion below is organized in four parts. The first examines the general process of graduate student development, socialization, and preparation. The second section focuses on how socialization occurs in graduate school, especially the processes, influences, and interactions that graduate students use to make sense of their experiences and prepare for the professoriate. The third examines graduate student conceptions and perceptions about the academic career and faculty work. The fourth section discusses recommendations from doctoral students for improving the graduate socialization experience.

The contribution made by this study is its emphasis on the perspectives and voices of graduate students who were given the opportunity over an extended time period to reflect on their graduate experiences. These findings can be combined with quantitative surveys of large numbers of graduate students to provide a useful framework for policy recommendations.

Graduate Student Development

Interview data reveal that the development of graduate students as prospective members of the faculty is shaped by many factors that take place in a nonlinear, complex way. Factors affecting how an individual experiences and develops in graduate school include age, educational background (for example, those who attended a liberal arts college had a better understanding of the complexities of being a college-level teacher), family situation (including having other teachers in the family, or being married or partnered and having children), and previous employment (especially prior teaching experience). Students enter graduate school with different prior experiences. Some have had formal teaching experiences, such as serving as a tutor while an undergraduate or as a teaching assistant during a master's degree program. Others have had informal teaching experiences in religious or community groups, where they served as leaders or planners of educational experiences. Some students have parents who are academics, whereas others come from backgrounds quite removed from academic life. Some are single and young, others come with family responsibilities that limit the time, energy, and resources the student can focus on the graduate experience. Other personal factors affecting graduate student development are the student's locus of control (that is, the extent to which a person perceives that he or she has the power to make decisions and manage the graduate experience), the student's sense of self-efficacy (that is, the belief that the student has the ability to do what is expected), and the student's ability to make effective connections with people and opportunities.

Disciplinary and institutional contexts also play a critical role in graduate students' socialization to the academic profession. Relationships between faculty members and graduate students differ across disciplines, as do career possibilities and the preferred balance in faculty work between teaching and research. Graduate students in the sciences, for example, more often participate in research teams, whereas students in the humanities and social sciences have more one-to-one relationships with faculty members. Students in the sciences have more research assistantships, whereas graduate students in the humanities and social sciences more frequently hold teaching assistantships. Teaching assistants in humanities or social sciences are more likely to teach sections on their own, whereas teaching assistants in the sciences typically lead labs rather than teaching whole sections alone.

Despite disciplinary differences, graduate students share common challenges and concerns. Most students must make sense of the academy and its values, its expectations of them as graduate students, its conceptions and definitions of success, and the models of professional and personal life that it offers to those aspiring to join the academic ranks. In this discussion, I report the themes and issues holding true across disciplines and other personal factors.

The Process of Socialization and Preparation for the Faculty

Socialization is an ongoing process, not the result of occasional events. From their entrance into graduate school, these prospective faculty members strove to make sense of academic work and faculty careers, how their interests and values fit with those they saw honored within the academy, and the kinds of future they envisioned Important aspects of this socialization process include observing, listening, and interacting with faculty, interacting with peers, and interacting with family and personal friends That graduate students learn from observing and interacting with their faculty—as in an apprenticeship—is not surprising More surprising is their reliance on others—peers, family, and friends—to make sense of their experiences in graduate school Particularly noteworthy and a cause for concern is the lack of systematic professional development opportunities, minimal feedback and mentoring from faculty, and few opportunities for guided reflection Although some students had faculty mentors who guided them carefully through the process, most did not

Observation, listening, and interacting with faculty Aspiring faculty are keen observers and listeners They listen carefully to formal as well as informal conversations with advisors and supervisors They pay attention to casual, off-hand remarks by professors and by more advanced students Aspiring faculty members observe departmental policies (such as the absence of statements about teaching philosophies) and faculty members' behaviors, including how they allocate their time across responsibilities, their degree of willingness or reluctance to take on various tasks, and their interactions with students The participants often mentioned "mixed messages" For example, they observed that statements made by institutional leaders about the importance of high-quality teaching do not coincide with the ways their advisors or supervising faculty spend their time, with advice offered in casual hall conversations, or with university reward structures

When a graduate student is a teaching assistant (TA), the person for whom he or she TAs or the TA supervisor sometimes serves as a model In the best cases, such a person is available to answer questions or talk informally about the class Some respondents mentioned the helpfulness of departmental faculty and graduate directors who make themselves available for informal conversation about teaching in the discipline and the academic labor market

Graduate students do not rely only on observations of their graduate professors Some of the respondents discussed undergraduate faculty whom they would like to emulate In other cases, previous professors are reminders of what the graduate student does not want to be like As one explained, "Every teacher I have is a teacher I can use in some way I can always be thinking about how what I'm learning relates to teaching" This apprenticeship of observation (Lortie, 1975), well understood by those who prepare K-12 teachers, is also a powerful influence on graduate students aspiring to the professoriate

Interactions with peers Many participants commented favorably on the opportunities for informal interactions with peers that occur when TAs see each other regularly Some graduate students credit their friends in graduate school for helping them to manage the various requirements and hurdles of a graduate program These peers also help to celebrate milestones in the graduate process

Interactions with personal friends and family Other family members and personal friends—spouses, parents, uncles, a professor whom one participant had dated at another university— had been or were current confidantes for many participants Surprisingly, some participants saw these individuals as their primary referent group despite being outside the immediate academic environment

Lack of developmentally organized, systematic professional development opportunities Experiences as teaching or research assistants can provide learning opportunities Many participants reported that their research experiences gave them confidence in their ability to frame research questions, design studies, and write for publication For the most part, however, the graduate students we studied did not experience systematic, developmental preparation for the faculty career Teaching experience is not necessarily required in PhD programs for those who aspire to be professors When teaching opportunities occur, they are often not organized systematically to ensure growth or appropriate preparation For example, we found few instances where the TA experience was used to encourage more complex activities over time, such as moving from grading for a faculty member, to managing a lab section under guidance, to running a course alone The use of TAs usually responds to departmental needs to cover courses or sections, not the development of future professors Furthermore, focused, regular feedback about teaching and in-depth conversations with faculty about teaching practices often are not planned into the schedules of teaching assistants or the faculty for whom they TA Participants who experienced careful supervision and opportunities for conversation reported that they welcome such guidance

Few graduate student respondents reported receiving any guidance about the array of other tasks that faculty members must fulfill, including advising, committee work, curriculum development, managing ethical issues, and public service and outreach Specific guidance on how they might develop or adapt their professional skills for settings outside academe was not part of the preparation of most participants

Insufficient feedback and mentoring Several respondents mentioned that they received inadequate information about the basic requirements of graduate study, such as the rules, processes, and expectations about comprehensive exams, dissertation proposals, and doctoral committees Few reported opportunities to interact on a regular basis with a faculty member to discuss and explore such issues as career choice, meaning in faculty work, options for the future, and assumptions about teaching and learning

Few opportunities for guided reflection My colleagues and I asked participants to draw pictures showing their "path or journey through graduate school" (Nyquist et al , 1999) It is noteworthy that many pictures featured cliffs, swamps, mountains, and other challenging geographic details Many respondents spoke poignantly of their struggles to move through graduate school and, particularly, to find the best ways to situate their own interests in the context of the values and emphases of their faculty advisors and disciplinary contexts

Surprisingly, the interviews for this study became a substitute for the lack of opportunity for respondents to discuss their progress with their own faculty members Many told us that these interviews were the only occasions where they had a serious conversation about their goals, how they thought about careers, or how they were developing as teachers, researchers, and prospective scholars In sum, although focused and guided self-reflection are integral to graduate students' sense-making process, it is not an activity that graduate advisors or doctoral programs facilitate

Conceptions of the Academic Career and Faculty Role

The sections below address students' motivations for pursuing graduate education and for aspiring to a faculty career Also included are key themes about faculty work and the academic lifestyle of professors

Motivations Study participants often mentioned that core values long associated with faculty work attracted them to graduate school Many noted the opportunities to pursue disciplinary interests, to engage in creative work, to contribute to the development of a future generation in one's discipline, and to interact with interesting and diverse people These observations seem consistent with quantitative data collected by Anderson and Swazey (1998) a decade ago They found that substantial percentages of graduate students indicated desire for knowledge in the field and wanting to do research as primary motivators More than one-third responding to that survey also indicated that they desired to teach

Aspiring faculty members begin their graduate education with enthusiasm and idealism about engaging in meaningful work Some used the term "passion" to describe their excitement about the questions in their disciplines or fields that they want to pursue For others, sharing their enthusiasm for the discipline or field with students is a primary motivation Although historically faculty work has been seen as a "calling" (Finkelstein,1984), this term does not characterize our respondents Instead, prospective faculty members today want "meaning" in their work They want to engage in work that has a positive impact on the students with whom they come in contact or on the broader society and work that has personal significance for them Their motivations are largely intrinsic in character, which is consistent with research on early career faculty (Austin, 1992, Rice et al , 2000) Yet, these respondents do not view the faculty career as the only possibility for engaging in meaningful work. One PhD student in zoology explained that his Christian faith frames his thinking about his life and work He used the term "calling" to describe his motivation, but explained that being a faculty member may not be the only way to pursue his commitments "I'm here to do this as a career but, at the same time, it's not the end all or be all " Another respondent, a woman also in zoology, spoke of her love of science, her enjoyment of working with undergraduate students, and her excitement about communicating her love of the discipline to others She explained that making choices about careers is difficult and suggested that being a faculty member may not be the only possibility

> Most people expect that, once they graduate from college they know exactly what that they're doing with their life And it's just not true I think the 20-something years is a very stressful time in that you're supposed to know exactly what you're going to do And nowadays, you don't really have to A lot of people make mid-career changes and it's not something that you have to know exactly You're not going to make a decision at age 22 that is going to necessarily be the same thing for the next 35 years of your life
>
> I can't see myself being a professor tomorrow, but in five years, maybe

An English doctoral student explained that she would enjoy faculty work but is willing to pursue other ways to use her abilities as a thinker, writer, and teacher She wants to have a balanced life where her spouse and children are as important as her potential faculty career

Finding "meaningful" work better describes how these doctoral students have approached graduate school and considered faculty work than using the term "calling " During their graduate programs, some respondents questioned whether or not faculty life is the vehicle to help them find the meaningfulness they seek At the same time, most respondents have not developed a full understanding of what faculty work actually involves, nor have they gained understanding of specific career options outside academe

Perceptions about teaching and research as aspects of faculty work Respondents explained that their many observations provide messages, albeit often ambiguous, about the relative importance of teaching and research. Some noted that graduate faculty members often devote little time to helping doctoral students learn to teach. Some teaching assistants were urged to avoid spending "too much time" on their teaching. Others saw that faculty members expressed reluctance to serve as administrators because time would be taken from their research.

The graduate students often mentioned mixed messages about teaching—the most obvious being public statements by institutional leaders about the importance of teaching contradicted by institutional policies and faculty behaviors emphasizing research. Their observations of university reward structures, including tenure processes and decisions, strongly affect aspiring faculty. A female student in Business explained this phenomenon:

> There is a very heavy emphasis on teaching. At the same time, all the rewards and everything in the department are still research-based. I think what happens in our department right now is if you publish a lot you are golden. Unless you are an absolutely diabolical teacher, they're not going to do anything about it. . . . I don't think they are just giving lip service to teaching, I think they are really considering it important. . . . On the other hand, that's not the way it [faculty rewards] is structured at all. I am not into the system yet, . . . but if the incentives went that way, I don't know.

Said more directly by another graduate student, no one "hassles faculty about poor teaching." And a male student in zoology observed, "Teaching takes a back seat to research, . . . research gets the glory."

Some graduate students were encouraged to value teaching. Some departments encourage teaching assistants to participate in special training sessions, and some teaching assistant supervisors or faculty advisors encourage discussion about teaching approaches and experiences. Nevertheless, the graduate experience—students' daily experiences, conversations, and observations—appears to socialize aspiring faculty primarily to a vision of faculty work that has dominated the academy for at least four decades (Rice, 1986). This preparation for the faculty career stands in direct contrast to the national discussion about the importance of various kinds of scholarship (including teaching and service/outreach), institutional calls to encourage a balance between teaching and research, and the likelihood that many graduates will find positions in master's- and bachelor's-granting institutions.

Perceptions of the faculty lifestyle. By the second year of the interviews, respondents were offering many comments about the lifestyle associated with faculty work. The participants often noted constant pressure and stress, as well as conflicting demands. Observing their teachers and advisors, some wondered whether it is possible to have a "balanced life" with room for both personal and professional commitments Some respondents rethought their career goals based on these observations For example, a woman in a science field remarked "I used to think I wanted to work in a Research I institution, but after seeing how my advisor lives, I think maybe a four-year college would be a better placement I want to have a life " Another participant, working on a PhD in English, described her advisor's life as a negative example "My advisor never seems to have time for me She's always busy at conferences or doing research I don't want to be that kind of professor I want to be there for my students " A woman studying psychology worried about balancing professional and personal lives

> I hope I'll be able to find what I'm looking for I love the brain research I'm doing, [but] sometimes when I observe the faculty in our department, they just seem too busy I need more balance in my life You know I'm pregnant My husband and I both want to make sure we have time for our baby

A woman studying for a doctorate in educational psychology gave the most poignant example of these concerns

> For a while I thought maybe I'd like to work in a research university, if I could, but after my husband's heart attack, I realized life is too short I want time with him I love teaching, I like research, but I need to choose a path that gives me time to have a life

Insufficient understanding of faculty careers or other career options Although careful observers of the stress and commitment in faculty lives, many participants did not have a rich, full understanding of academic life and faculty careers They often were unable to articulate a comprehensive statement of what faculty life involves Many expressed limited understanding of the variety of roles that faculty members must fulfill beyond teaching and research, such as advising, institutional service, and public outreach Few actually understood the various types of service and outreach (although it could be argued that many faculty members themselves do not have a thorough understanding of service and outreach) The participants understood *research* success in their fields, but were far less articulate about other forms of achievement

Faculty members seem to assume that graduate students either arrive with an understanding of faculty work or develop such understanding implicitly Few advisors initiated conversations with their graduate students about possible career routes or about alternative opportunities for career success in the future A doctoral student studying music illustrated the uncertainty expressed by a number of participants "I don't have any idea I have no idea what it's like to be a faculty member And I thought being a graduate student might give me some idea, and it doesn't I don't know anything I feel like I should, but I don't." A woman in psychology found that the faculty simply assumed that graduate students understand faculty work and academic life "People coming into PhD programs aren't as aware of what the system is like at all, what the universe, what being an academic is like And that knowledge is taken for granted"

Grappling with perceptions of faculty work Some participants found it easy to make sense of the life and values embedded in the academy According to one woman in a professional area

> It's the things that you don't get grades for that are the most important, presenting papers, schmoozing at conferences, the politics of the department I love all of it I think I'm the ideal graduate student I love my work, I believe in what I'm doing, and I don't have a boyfriend so I can move anywhere

More common were the students struggling with a different understanding of the academy than they had originally envisioned Some perceived over time that their commitment to teaching was not valued as much as they had expected Others worried about pressure and stress Creating a life with balance between personal and professional commitments seemed elusive to these prospective faculty The principal conflict for many respondents was feeling that they must adjust or sacrifice their own interests and goals (often the very interests and questions that led them to graduate school) to fit the expectations and interests of their advisors Some graduate students handled these contradictions, remaining committed to graduate study and the professoriate Others, such as the participant quoted here, could not find their place and chose to leave the academy entirely

> I came here because I really wanted to teach Research was the hoop I had to jump through I didn't know if it would take more than I was willing to give I've tried three times to find a "researchable project," and, well, I'm just not that interested anymore I think I'll go into business

Between these two extremes are the students who continue while resigning themselves to departmental expectations Disappointment and disillusionment characterize the lives of some in this group Consider a woman studying in the humanities who had anticipated with excitement the guidance she had hoped to receive from her advisor Instead, she found her advisor distant and too busy to spend much time with her Well into her program, this student struggled with her research focus and felt that her committee members were busy with their own interests, explaining that "they don't have time to do what I think they need to be doing [with me]" She explained with resignation, "I realize I'm going to just have to reach deep down inside myself and just do it" The disillusionment and isolation experienced by some prospective faculty during graduate school do not bode well for the professoriate as a whole

Perhaps the most interesting group tries simultaneously to "be true to one's own values" while recognizing and adapting to the dominant values of the academy and being competitive in the academic job market These students actively seek opportunities to expand their abilities and to reflect on and connect the various elements of their graduate experience Some students have started discussion groups among their peers to read about and discuss teaching Others have found assistantships beyond their departments—such as in university administrative offices—that expand their knowledge of the academy Some respondents have taken internships or volunteer work outside the university to use their disciplinary and research skills in nontraditional ways

Student Recommendations for Improved Graduate Program Socialization

Participants articulated five recommendations for improving graduate school as preparation for faculty careers

1 *More attention to regular mentoring, advising, and feedback* The respondents called for their faculty members to provide them with careful, thorough advising and regular supportive mentoring They value guidance on how to negotiate their way through the challenges of graduate education, the expectations and criteria that define success in academe, how to interpret conflicting explicit and implicit messages, how to balance the personal and professional aspects of their lives, and the possibilities for alternative career routes Some also wish that the faculty would provide more explicit feedback about their progress as students, as teachers, and as future faculty members
2 *Structured opportunities to observe, meet, and talk with peers* Several doctoral students requested more structured opportunities for peer discussion about teaching, faculty work, disciplinary expectations, and career possibilities Some also recommended that teaching assistants periodically observe each other and meet to discuss teaching-related issues
3 *Diverse, developmentally oriented teaching opportunities* Several participants praised the value of diverse teaching experiences and urged systematic attention to providing graduate students with opportunities to take on increasingly complex and more autonomous teaching responsibilities
4 *Information and guidance about the full array of faculty responsi-*

bilities Some respondents requested that their graduate education provide more occasions for skill-building, including grant and proposal writing, research budgeting, and various teaching strategies Students in the sciences more frequently felt confident in research-related skills, whereas humanities and social science students reported greater confidence in teaching Graduate students did not usually mention advising, institutional service, outreach responsibilities, or the likelihood of teaching with technology as areas in which they needed more information These results indicate lack of awareness about these aspects of faculty work

5 *Regular and guided reflection* The respondents uniformly expressed enthusiasm and appreciation for the twice-a-year interviews in this project Many of them did not experience extensive, thoughtful, periodic conversations with advanced colleagues

Discussion

These results show discrepancies between the preparation of graduate students and the realities of both academic work and the academic labor market. Graduate students typically did not receive systematic opportunities to develop needed skills and abilities They often reported considerable preparation for research, though some indicated they were not well prepared to secure funding and write grant proposals In contrast, most did not experience careful guidance and training in many aspects of teaching, such as curriculum design or using technologies in teaching Experience and training in advising, institutional service, outreach and public service, and ethical aspects of the faculty role were generally not part of the experience of those whom we interviewed

These results support the conclusions of quantitative survey studies Based on data from a survey of 9,645 students in eleven disciplines at 28 major research universities, Golde and Dore (2000, p 6) concluded that "what students are trained for is not what they want, nor does it prepare them for the jobs they take" They learned that aspiring faculty have interests in research, teaching, advising, and service, but their training primarily emphasizes research and publishing Teaching preparation generally is limited to lectures In an earlier study of 187 doctoral students at six universities, Golde (1997) found that 90% felt prepared to conduct research, whereas only 63% felt prepared to teach undergraduates, 33% to teach graduate students, 30% to advise undergraduates, 26% to advise graduate students, 38% to get research funding, and 19% to participate in university governance and service Davis and Fiske (2000) reported that 63% of their 6,529 respondents were not carefully supervised in their assignments All of these studies show that graduate students who aspire to the professoriate perceive that they do not receive systematic preparation in many aspects of the job

Second, and related, aspiring professors receive little guidance about academic careers in different types of institutions Although the Preparing Future Faculty Program (Gaff, Pruitt-Logan, Weibl, & Others, 2000) and others like it are praiseworthy exceptions, many graduate students have little exposure to the differing faculty cultures and expectations across institutional types Most graduate students consider the faculty position from the research university perspective, even though many will teach at other types of institutions Davis and Fiske (2000) found that 37% percent of their respondents reported receiving little guidance for academic careers, less than one-half received guidance about nonacademic careers

A third theme is that graduate students do not receive focused, regular feedback or mentoring Many of the graduate students in this study were on their own to make sense of their graduate experiences Though there were exceptions, many did not receive specific feedback about their teaching or other activities, or focused and regular mentoring and advising about career aspirations and progress toward goals Anderson and Swazey (1998) found similar results a decade ago, reporting that "only about half agreed—very few strongly—that faculty members were explicit in their expectations of students and that evaluation was successful in 'weeding out' the weak students" (1998, p 6)

Fourth, graduate students value their interactions with their peers for both its social value and the information shared Much informal socialization occurs through those peer interactions Similarly, Anderson and Swazey reported that "about half of our respondents said that students in their program learned more from each other than from the faculty" (1998, p 6) These findings raise questions about the faculty's engaging in serious and sustained ways with their students about the graduate experience, the academic workplace, and career goals and options

Fifth, graduate students who aspire to the professoriate are concerned about their observations of faculty life Especially important is the perceived difficulty in finding a balance between professional and personal commitments This theme occurs in the research on early career faculty (Rice et al , 2000), and in other studies of graduate students (Golde, 1997, Golde & Dore, 2000, 2001) Despite the prevalence of concern about faculty life, few faculty members talk with graduate students about how to build a satisfying life as an academic

Sixth, the graduate student experience can adversely affect the commitment of students to the professoriate Anderson and Swazey found that "nearly a third of our respondents agreed with the statement that graduate school was changing them in ways they did not like" (1998, p. 9). Many of the 79 participants in this qualitative study experienced conflicts between what they valued and what they perceived their graduate education to encourage. These conflicts may not necessarily be disadvantageous. In some cases they represent important developmental struggles that many young adults must experience as they choose careers, including the decision not to pursue an academic career. Yet the struggles and conflicts about personal values, and the values and emphases that the students perceive they are being socialized to accept, often occur with little provision for guided reflection, systematic advising, or thoughtful mentoring.

Recommendations

Calls for reform in graduate education come from professional associations, government agencies, philanthropic organizations, and institutional leaders (Association of American Universities, 1990, 1998; Committee on Science, Engineering, and Public Policy, 1995; Golde & Dore, 2001; Hartle & Galloway, 1996; Kennedy, 1997; LaPidus, 1997a, 1997b; Malcolm, Van Horne, Gaddy, & George, 1998). A conference focused on "Re-envisioning the Ph.D.", sponsored by the Pew Charitable Trusts and directed by Jody Nyquist, brought together individuals from various groups within and outside academe, to develop alternative scenarios for the PhD. (See http://www.grad.washington.edu/envision/ for reports and strategies for strengthening the PhD.)

Based on these research reports, I make several recommendations to faculty advisors working with doctoral students, department chairpersons, teaching assistant supervisors, and graduate deans. Each of these groups has the means and opportunity to implement some aspects of the recommendations for strengthening graduate education as a socialization experience for aspiring faculty.

First, doctoral experience should include systematic and developmentally organized opportunities for students to learn about the many aspects of faculty work. Attention to research development should continue. Additionally, all students who aspire to be faculty members should have opportunities to think deeply about teaching (including philosophical assumptions that guide teaching, diverse teaching strategies, characteristics of learners, curriculum development, and the implications of technology for teaching and learning). Graduate students should learn about expectations for institutional service, the meaning of public service and outreach in their discipline or field, how to work with colleagues from other disciplines and with people outside academe, how to communicate with the public beyond the walls of the university, and what the changing nature of students will mean to the new faculty. Prospective faculty also should learn about the various institutional types and the different roles for the faculty in them. Certificate programs in College Teaching, now available at some universities, offer opportunities for students to supplement their content preparation with experiences, mentoring, and workshops that broaden their preparation for faculty work. The Preparing Future Faculty Program (PFF) offers a good example of how doctoral programs in research universities can partner with other colleges and universities to address these professional development needs (Gaff et al., 2000). In the PFF program, clusters of diverse institutions—involving liberal arts colleges, community colleges, comprehensive institutions, and historically black colleges and universities—work together to integrate preparation for the faculty career into the graduate experience. Graduate students in the program participate in faculty roles at nearby institutions as they complete their doctoral work. Through seminars, mentoring, workshops, and observation, prospective faculty members learn about the options and differences in faculty work at various institutional types. Participants are enthusiastic about how the PFF program expands their knowledge and strengthens their preparation for faculty work (Gaff et al., 2000; Pruitt-Logan, Gaff, & Weibl, 1998).

Second, faculty members should provide regular, ongoing advising and thorough, periodic feedback and assessment. Assessment should help students determine their progress as scholars and future faculty members. Such advising requires department chairs and graduate deans to work with faculty members to develop effective, mutually respectful, efficient advising relationships. In addition to effective advising, reducing the conflicts between faculty members and graduate students is important. One promising program to help students and faculty members create mutually acceptable expectations and resolve conflicts is currently underway at Michigan State University (see http://grad.msu.edu/conflict.htm).

Third, departments can make deliberate use of informal peer relationships to foster socialization. Departmental sponsorship of regular opportunities for graduate students to talk with each other as well as with faculty members can lay the groundwork for deeper professional conversations. Programs to link experienced graduate students with individuals just starting out in graduate school may also be helpful.

Fourth, graduate students should be encouraged to engage in ongoing, systematic self-reflection. Socialization for doctoral students is largely about making sense of graduate school and the academic career, developing one's interests and areas of strength, determining how one's values and commitments relate to those in the profession, and developing one's own sense of place and competence within that profession The time and support for reflection are important ingredients in the socialization process As reported, many respondents told us how much they looked forward to the interviews as the only opportunity for structured self-reflection with an interested professional

These recommendations envision a doctoral education with explicit attention to the various roles and responsibilities that typically characterize the life and work of a faculty member, the differing cultures and emphases of the various institutional types that comprise the higher education sector, the ways faculty members may handle the challenges and choices of lifestyle, possible ways to link teaching and research, and the expectations, norms, and values of the specific discipline or field Doctoral education also should provide opportunities for students to learn about alternative careers and choices

These suggestions may sound fairly straight-forward and relatively easy to implement Yet calls for reform and improvement in graduate education are not new Actually effecting change is challenging due to the culture, values, and structures of the American research university where doctoral students are educated Large numbers of undergraduates must be taught, and institutional needs in terms of teaching assistant assignments do not always match doctoral students' developmental needs Universities depend on external research monies, and project work and deadlines must sometimes take precedence over graduate student learning needs For example, doctoral students sometimes report that they cannot take on teaching assignments or other projects suitable for their own professional development because faculty members depend on them as key employees on funded research projects Also, faculty members interested in devoting time to thoughtful graduate student advising may fear that their research time will suffer If graduate education were to change in substantial ways, these kinds of expectations, values, and structures within the university would need to be considered The history over the past decade of institutional efforts to reconsider scholarship (Boyer, 1990) shows that such conversations and related actions are difficult to initiate and maintain

In the coming decade, however, various pressures on higher education institutions may encourage serious rethinking of faculty work and the related question of how to prepare new faculty members Pressures to reach new student markets, to enhance competitiveness and productivity through the use of technology-assisted distance learning, to link research expertise more closely to specific societal problems, to reduce costs for higher education, and to meet learners' expectations for lifelong, easily accessible, relevant educational opportunities challenge the American academy to think in new ways about how to prepare, organize, and deploy human resources Part-time work is already a major component of the faculty labor market Segmented or "unbundled" assignments that ask professionals to specialize in particular areas of expertise rather than traditional positions that require each person to assume all roles are possibilities at some institutions In a context where long-held assumptions about faculty work are challenged, serious attention needs to be given to the preparation of the new professoriate

Improvements in graduate education need not wait for major changes in faculty work to occur, however Some modest changes could have important results in the near future What might a modestly revised doctoral experience look like? A revised doctoral program could begin with an opportunity for entering students to discuss with faculty members their intellectual and professional goals Though students' goals often change as they gain experience and learn more about the questions of their fields, the initial assessment could be used to begin focused planning and decision making A planning session at time of entry could be followed by annual discussions with a faculty advisor about how the student's goals are changing and how courses, research, teaching, and other experiences are contributing to progress toward the goals Organizing teaching and research experiences to offer more developmentally challenging experiences is likely to be difficult in many universities where teaching assistantships are based on departmental needs and research assistantships depend upon faculty grants However, simply conceptualizing teaching assistantships according to the variety and complexity of skills required and assigning doctoral students to the most relevant teaching experiences on this basis, can help students develop a range of skills and abilities over time Some faculty members who supervise teaching assistants already arrange periodic discussions about such relevant topics as how learning occurs in the specific field, how curricular choices are made, assumptions about the roles of learners and teachers, and how to address difficulties that arise in the classroom or lab Similarly, directors of research projects might think carefully about how research responsibilities for graduate student assistants could be diversified over time, rather than leaving this process to happenstance or to the individual preference of a doctoral student Encouraging students to create portfolios that document the particular skills and abilities developed in each teaching experience as well as their research experiences and related skill development would also contribute to more systematic development of teaching and research skills Department chairs and faculty advisors could save time and capitalize on the already present peer interaction by organizing group sessions for students Students would meet once a month or so with representatives of the faculty to discuss events, expectations, changes and priorities in the field, career options, ethical dilemmas in the profession, linking academic work with community or social concerns, the various vehicles for communicating research findings to diverse audiences, and other issues in the specific discipline or professional field

Without a plan these recommendations might appear to add more time to a doctoral program or to the work of already busy faculty members Yet many of these suggestions involve reorganizing, not adding time For example, using peer groups as the site for providing departmental information and discussing professional and disciplinary concerns could save time for faculty members who would no longer have to arrange individual conversations on such issues with their advisees Adding advising sessions to discuss students' development as teachers and scholars could result in more appropriate work assignments that enhance the quality and efficiency of their research and teaching contributions and avoid the time-consuming problems that faculty members must sometimes resolve Although time to degree might increase when students take teaching internships such as those arranged in the Preparing Future Faculty Program, the testimonies of those who have had such opportunity suggest that the additional months of experience are a valuable option as preparation for faculty roles (Gaff et al , 2000)

The faculty members of today have a significant responsibility to prepare and support future faculty members One of the long-lasting contributions of most current faculty members lies in preparing highly capable, innovative new colleagues for the challenges they will face Socializing the new professoriate may require more organized institutional attention than historically has been true Listening to the reported experiences and thoughtful suggestions of those who wish to enter the professoriate is a good place to start

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Karen Paulson

Reconfiguring Faculty Roles for Virtual Settings

In 1995 several Western governors decided to create a virtual postsecondary institution to confer competency-based degrees. Several issues motivated these governors. Enrollment demand threatened to exceed the physical capacities of their higher education institutions. Constructing new physical facilities to meet this demand was fiscally unfeasible. In addition, online delivery of learning opportunities potentially would make higher education accessible to students in remote rural locations that typify the western regions of the United States. Harnessing the power of the Internet to deliver instruction seemed to offer the economies of scale to meet both objectives. Also, competency-based education with third-party certification of what graduates know and can do made sense in an employment climate where it is commonplace to question what it means to have a degree. Other less obvious reasons for gubernatorial and corporate support for what became Western Governors University (WGU) include a variety of political interests, a desire to foster innovation in higher education institutions, and a need to actively address business requirements for competent graduates.

When the idea of WGU was first introduced, little was known about the costs of technology-based instruction and at what point economies of scale might be achieved. WGU's development was a manifestation of forces working imperceptibly within most of higher education. These

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Karen Paulson is a research associate at the National Center for Higher Education Management Systems, Boulder, Colorado.

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forces are now much more apparent. Costs of education, particularly instructional costs per student, are a concern as budgets tighten Similarly, the cost effectiveness of various educational approaches and technologies are of growing interest (for more information on technology costs see Ehrmann & Milam, 1999, Finkelstein, Frances, Jewett, & Scholz, 2000, Jewett, 2000, Jones, 2000, Jones & Jewett, 2000, Twigg, 2000)

The technology-driven competency-based form of postsecondary education envisioned for Western Governors University required reconceptualizing the faculty role Recent business and medical practices of disaggregating complex activities into component parts suggested that WGU faculty roles be "unbundled" That is, rather than incorporating the responsibility for all technology-and competency-based functions into a single concept of "faculty member," WGU disaggregated faculty instructional activities and assigned them to distinct professionals This article draws on several years of experience by key staff at the National Center for Higher Education Management Systems (NCHEMS) and the Western Cooperative for Educational Telecommunications (WCET) in building the academic and technical infrastructures for Western Governors University

The concept of unbundling in higher education was introduced as early as the mid-1970s by a law professor who suggested that higher education violated the Sherman Antitrust Act by bundling "impartation of information, counseling, credentialing, coercion, and club membership" (Wang, 1981) Wang defined these activities as follows "Impartation of information" was the actual classroom interaction of faculty and students Counseling referred to both academic advising and personal interventions Credentialing "consist[s] of grading the work of students and awarding degrees (p 56)" "Coercion" reflects the pressure to do well academically brought to bear on individual students by interacting with faculty, administrators, and peers Finally, "club membership" referred to the (then) exclusivity of college attendance and the specialized interactions, both academic and social, that attendance brought with it About the same time, Troutt (1979) applied the idea to community colleges by suggesting that faculty instructional time be deconstructed into three areas direct instruction, assessment of student learning, and academic advising Since then the term "unbundling" has been infrequently used in reference to faculty work Recently, it has been resurrected to describe how to assign costs associated with discharging distinct aspects of instruction Few authors have defined unbundling in relation to the faculty instructional role, although many have used the term This article describes unbundling conceptually and then discusses its usefulness both in virtual environments and in traditional academic institutions

Particularly important are the scope of unbundling in virtual institutions and the consequences of unbundling in traditional institutions for core activities and beliefs

"Unbundling" the Faculty Instructional Role

The most flexible asset at institutions of higher education is faculty time and effort The "labor/capital" ratio is unusually high in higher education, where the quality of the educational experience is often defined by student access to faculty members Faculty members also have wide discretion in how they use their time (Bowen, 1980, Fairweather, 1996) The labor intensity and discretionary time characteristic of faculty work are principal factors in the cost of traditional higher education (Levin, 1991) Virtual universities in theory attempt to control costs by increasing productivity (i e , more students per faculty member) and improve cost effectiveness by increasing student learning relative to the costs of instruction (Massy & Zemsky, 1995)

Traditionally, the faculty role contains three functions research, teaching, and service The latter can include institutional, professional, and public service Although these functions often are unrelated (Feldman, 1987), recent studies suggest that the research function can overlap with nonclassroom forms of instruction (Colbeck, 1998) Although the mythology of faculty work envisions all three functions being discharged by each individual faculty member, in practice academic institutions have met many needs by hiring individuals to carry out only one function Part-time faculty members, comprising about 40% of the total professoriate, carry out a major part of undergraduate instruction at many institutions (Gappa & Leslie, 1993) Other universities hire full-time researchers who have no instructional duties (Geiger, 1990) Nonteaching professionals often carry out academic advising at large universities (National Academic Advising Association, 2000) Many higher education institutions also contract with others to deliver their outreach obligations Sherron and Boettcher (1997) point out that differentiating the faculty role is necessary to lower personnel costs and that "we [in higher education] actually have de facto differentiation today, we just don't admit that we do" (p 23) Unbundling formalizes this differentiation process by identifying activities within each function and allocating individuals and resources to meet functional requirements in the aggregate

Unbundling goes beyond designating generic functions It requires specification of activities *within* each function. Under most conditions, an individual faculty member may carry out five distinct activities when "delivering instruction "

- *designing* the course or curriculum,
- *developing* the course or curriculum by selecting appropriate instructional methods and course materials, or creating those course materials,
- *delivering* the subject matter previously selected either in person (lectures, etc) or through the use of various forms of media,
- *mediating* (also called "tutoring") the learning process, which helps students understand materials in ways tailored to their individual learning styles and levels of understanding, and
- *assessing* individual student learning through appropriate methods and assignments designed to certify the attainment of a given level of competence

This conceptualization of instruction treats academic advising as a separate, noninstructional activity because of the increasing use of centralized advising centers on many campuses Academic advising could be included as a sixth activity, especially in baccalaureate institutions

First- and second-year lecture courses at many large institutions provide one example of how the five unbundled instructional activities are enacted Subject matter is determined by a departmental committee (the *design* activity) and defined largely by required course sequencing Either the committee or a designated faculty member selects textbooks and readings to link with materials used in other courses These readings, which shape the content of daily lectures and assignments, comprise a large portion of course *development* A senior faculty member lectures to large groups of students twice a week based on specified texts the students presumably will have studied (the *delivery* activity) Graduate teaching assistants (TAs) lead smaller discussion sections throughout the week (the *mediating* activity) TAs also frequently grade quizzes, term papers, and examinations (the *assessing* activity), often suggesting final grades that faculty members of record rarely change In this familiar scenario, senior faculty members perform only a few of the five basic activities alone Committees, other nonfaculty staff, and print/media material accomplish the rest

Virtual environments permit accomplishing some of these activities through the judicious use of technology, especially in the "delivery of content" arena (creating capital for labor substitutions) Other approaches might involve a finer or more deliberate division of labor among the faculty, creating new kinds of instructional staff, or deploying nontenure-track instructional staff (such as adjunct faculty, graduate teaching assistants, or undergraduate assistants) in new ways (creating labor for labor substitutions) Other arrangements might rely on resources from outside the institution to discharge an activity (a form of outsourcing), for example, relying on external vendors or publishers to develop course materials

Figure 1 helps us think about the differentiation of these five instructional activities and the various instructional agents Four separate instructional agents are used in this conception of unbundling Faculty members are the full-time tenure-track faculty Teaching professionals might be part-time faculty members, adjunct faculty, graduate (or undergraduate) teaching assistants, and/or members of support services offices within the university These latter include personnel from instructional services offices, faculty development offices, web support services, and so on Technology as an instructional agent refers to materials based on CD-ROMs, online sources, video- or audio-streaming, interactive video, textbooks, and so forth In this sense, technology is any vehicle not requiring a human agent at all times Finally, external providers are entities from outside the institution offering instruction, such as other institutions of higher education, publishers, testing companies, certification agencies, and professional licensing boards This form of contracting out for services, now more widely known as outsourcing, is used extensively for other aspects of the higher education enterprise in bookstores, grounds and maintenance, and medical services Although used less frequently for core educational aspects such as research, teaching, and service, Bartem and Manning (2001) point out that use of part-time contract instructors is itself a form of outsourcing

	Instructional Agent			
Instructional Activities	Faculty Member	Teaching Professional	Technology	External Provider
Design	X			
Development	X			X
Delivery	X			
Mediation	X			
Assessment	X			

Fig 1 Unbundling Instruction A Hypothetical Lecture Course

Using the example of the traditional lecture course, an *X* at the intersection of Design and Faculty Member indicates that a faculty member or a faculty committee determines course content Development could have an *X* in the Faculty Member and External Provider columns if both faculty and publishers combined to create the delivery mechanism—a textbook, web-based material, and so on If a faculty member relied on instructional materials created solely by an external provider, the *X* for Development would be under External Provider This designation does not mean that local faculty members have relinquished control of the curriculum, control is indicated in the Design activity The faculty members design the course or curriculum and have discretion in selecting instructional materials

To continue, a traditional course with the professor lecturing in a classroom would show an *X* at the intersection of Delivery and Faculty Member Alternatively, an *X* in the intersection of Delivery and Technology would indicate, for example, a publisher-created video of the lecture delivered to the students by technology The designation for Mediation depends on how the lecture course is set up At most large institutions an *X* would be placed in the Mediation-Teaching Professional cell, because either graduate students or adjunct faculty members lead the smaller discussion sections As for Assessment, final examinations requiring students to pass a nationally recognized and scored subject matter test would have an *X* in the External Provider column If the faculty member creates an essay examination and then grades all the papers herself or himself, the *X* would go in the Faculty Member column When faculty members and teaching assistants both write and grade the final exam an *X* would be placed in both the Assessment-Faculty Member cell and the Assessment-Teaching Professional cell

Traditional colleges and universities rarely have a single pattern for providing instruction Most academic institutions offer a combination of laboratory, seminar, and lecture classes each with a distinct instructional pattern Upper division and graduate classes employ different instructional techniques than lower division classes Instructional approaches vary by academic discipline (Fairweather, 1999) Some students today enroll at multiple institutions simultaneously, experiencing several instructional patterns in any given time period New instructional technologies also add to the instructional patterns enacted by institutions For example, face-to-face, video, asynchronous online, and synchronous computer chat rooms result in new instructional patterns

A comparison of instruction at nontraditional institutions, such as Western Governors University and the University of Phoenix, through the "unbundled" paradigm reveals substantial differences in instructional organization and delivery, differences overlooked when these institutions are given the same "nontraditional" moniker. WGU does not offer instruction or learning opportunities directly. Instead, WGU links learners with educational providers (other higher education institutions, corporate universities, and publishers) by "brokering" learning opportunities through a web-based catalog. Learners may choose courses delivered via a variety of technologies ranging from traditional postal-delivery materials, to interactive video, to web-based asynchronous learning opportunities. WGU hires full-time terminal degree holders as faculty members who act as Advisors as students choose learning opportunities that meet their educational goals. When prepared, learners take WGU-approved and sanctioned third-party assessments to determine their subject-matter competency. WGU awards degrees upon successful completion of a battery of assessments using a variety of assessment techniques.

Because WGU Program Councils consisting of faculty members and industry specialists (all part-time WGU employees) design the curriculum, an *X* would be placed in the Design-Faculty member cell (see Figure 2). These councils are analogous to departmental faculty committees in traditional colleges and universities. Because WGU offers no learning opportunities of its own, instead brokering courses and seminars from other postsecondary institutions, publishers, and corporations, an *X* would be entered in the Development-External Provider cell. WGU would show an *X* in the Delivery-Technology cell. An *X* is indicated in the Mediation-External Provider cell because instruction does not happen at WGU, however, an *X* is also indicated in the Mediation-Faculty Member cell because WGU Mentor-Advisors help students make connections with subject matter presented in learning opportunities. Finally, WGU uses third-party assessments of student competence, which is indicated by an *X* in the Assessment-External Provider cell.

The University of Phoenix (UoP), the largest private for-profit institution in the United States, is another commonly cited nontraditional higher education institution. UoP enrolled about 75,000 students in 2000. UoP students must be at least 23 years old, the average student age is in the mid-30s. Two primary approaches to instruction are tailored to meet the needs of working adults. The first is called "on ground" instruction, the second is online instruction.

On-ground instruction consists of 5-week (undergraduate) or 6-week (graduate) courses. These courses require students to meet face-to-face with an adjunct faculty member for one three- or four-hour class meeting each week. The faculty design courses sequentially, and students often take one course at a time. Class attendance is mandatory. A single

[redacted]	Instructional Agent			
Instructional Activities	Faculty Member	Teaching Professional	Technology	External Provider
Design	X			
Development				X
Delivery			X	
Mediation	X			
Assessment				X

FIG 2 Western Governers University

absence requires an administrative review and often withdrawal from the course However, students are encouraged and eligible to enroll in the same course the next time it is offered to continue progress toward their learning goals Finally, student groups are required in all courses Classrooms are within a 20-minute commute for most students, located at satellite campus sites, hotels, or other rented facilities UoP also offers completely asynchronous online instruction (about 16% of total enrollment in 2000) Classes are small (8–13 students), students must log on at least 5 out of 7 days a week, and instructors must give students feedback within 48 hours When unbundled, both forms of instruction—online and on-ground—produce different instructional patterns

The University of Phoenix's instructional pattern for on-ground instruction differs from its online instruction and from the WGU pattern (see Figure 3) UoP uses a distributed curriculum model A group of faculty experts designs the content of degree programs and courses, taking into account input from business and industry representatives Adjunct faculty members, who are required to be working full-time in their various fields, teach courses selecting from materials suggested by the central faculty group Placing an *X* in the Design-Faculty Member cell depicts UoP's centralized curriculum development The *X* in the Development-Teaching Professional cell, the Delivery-Teaching Professional cell and the Mediation-Teaching Professional cells indicates the use of adjunct faculty in these instructional roles Finally, an *X* in the Assessment-Teaching Professional cell designates course-embedded assessments

[redacted]	Instructional Agent			
Instructional Activities	Faculty Member	Teaching Professional	Technology	External Provider
Design	X			
Development		X		
Delivery		X		
Mediation		X		
Assessment		X		

FIG 3 University of Phoenix On-Ground Instruction

Policy Implications of Unbundling

These three examples illustrate how "nontraditional" institutions enact quite different instructional patterns and how instructional patterns can vary within traditional academic institutions These examples also demonstrate how instructional agents can be redirected to different activities to better achieve student learning and institutional effectiveness goals Dissecting instructional activities in this manner permits academic leaders to take institutional missions and goals into account by differentiating activities best accomplished by full-time tenure-track faculty members from those best provided by other instructional agents

Specific decisions about institutional mission created the different instructional patterns for both Western Governors University and the University of Phoenix Founders deliberately built their institutions to address identified needs As mentioned previously, WGU's purpose was to create a "free market" for learning opportunities and certify student competence by third parties The University of Phoenix was designed to meet the needs of working adults as a for-profit educational entity In each case the founders used the distributed curriculum model to deliver quality education while controlling costs

The central policy question for traditional colleges and universities is how to identify the activities best assigned to full-time tenure-track faculty members For instance, academic leaders at a four-year institution might question whether or not technology is an appropriate form of mediation given the institutional mission. In almost all cases the answer is no, because Mediation—student-instructor interaction—is considered the soul of collegiate learning and, not inconsequentially, is a primary focus of many accreditation reviews (Eaton, 2000). Based on institutional mission, what is the unique contribution of full-time faculty to instruction? Are faculty members taking full advantage of their skills while minimizing what could be done as well by others? At larger institutions with separate instructional design offices should the faculty be trained to use e-learning software and videography when professional institutional staff can develop these aspects of a course under the guidance of the faculty member?[1] One way to guide institutional policy is to determine the combination of instructional agents that brings the "highest value" in "learning productivity" (Johnstone, 1992).

Some institutions stipulate that all online course materials be developed in-house. Smaller institutions that make this choice without adequate professional staff available can overwhelm their faculties who must educate themselves about instructional design theories and techniques, e-learning tool software and code, and content. Other institutions that use multimedia in courses (both on-campus and online) have found that funds for traditional classroom equipment such as microscopes can disappear.

Applications in Traditional Institutions

Innovative, nontraditional institutions have found unbundling the faculty instructional role useful for rethinking the delivery of instruction. The concept of unbundling can assist traditional institutions, too. Traditional institutions are not immune from market forces. Life-long learning and additional certification needs have created an increase in enrollment demand. Traditional institutions will increasingly turn to distance education, particularly online education, to control costs and provide access (Dolence & Norris, 1995; Oblinger & Katz, 2000; Wallhaus, 2000). A recent study conducted by the National Center for Education Statistics (NCES) showed that the percentage of colleges and universities offering distance education courses increased from 11% in 1995 to 44% in 1998. At the same time enrollments nationwide in distance education almost doubled (Lewis, Snow, & Farris, 1999). Online instruction made up most of this increase. It has been estimated that by the year 2003, 60% of learners in higher education will access content electronically.

One way that traditional institutions address these concerns is to move to alternative forms of instructional delivery. As a process, unbundling provides an occasion for faculty and administrators to rethink conventional procedures As a practical tool, unbundling allows deans, department chairs, and their faculties to compare costs of instruction under different scenarios and to distribute workloads to increase effectiveness and efficiency Particularly important is the potential of unbundling as part of a larger strategic process to reevaluate instructional delivery As an example, colleges and universities typically just add technology to an existing course syllabus without considering how—and whether—its use can potentially change faculty use of time and enhance student learning In some cases, the faculty alter the course and its content to "fit" the available technology, thereby changing the original instructional objectives This approach is convenient but fundamentally backward and pedagogically unsound More intentional institution-wide attempts to infuse technology into instruction take a different path The so-called "pedagogy-up" approach, used by several state systems and institutions (e g , Kansas State University, Oregon University System), is based on setting clear instructional objectives from the outset, selecting the types of learning experiences appropriate for achieving these goals, and selecting (or building) the requisite technologies to achieve them

Another way for traditional institutions to unbundle the faculty role is to better utilize teaching professionals in instruction When searching for ways to decrease the costs of instruction, institutions often consider using a "cheap labor replacing expensive labor" substitution (Berg, 2000, Twigg, 2000), operationalized by more fully integrating graduate and undergraduate teaching assistants into course instruction Many institutions have undergraduate teaching assistants who act as "peer instructors " These TAs serve as an initial response mechanism to distinguish learner inquiries needing simple responses from complex problems requiring faculty intervention The first-year engineering design courses at the University of Washington and University of Maryland (initially funded by the National Science Foundation) as well as more recent Pew Course Redesign projects such as University of Colorado-Boulder's astronomy (see www center rpi edu) used this approach

Yet another way that unbundling may help institutions achieve increases in learning productivity is through the dual focus on mediation and assessment of student learning outcomes (Massy & Zemsky, 1995) Clear learning outcomes might decrease the number of re-enrollments, course duplications, and revisiting of previous material in the first few weeks of a course, thereby increasing student learning productivity (Jewett, 2000)

Applying technology to achieve economies of scale in instructional delivery to enhance student learning productivity highlights the need for faculty members to improve the mediating activity, that is providing the critical individual sense-making experiences and links that students use as they learn the material being presented The mediating activity lies at the heart of good teaching It is the instructional activity least amenable to mechanical solutions (Brown & Duguid, 2000) Even the best software cannot anticipate all of the wrong turns human learners can take, all of the ways they can misconstrue sentences, or all of the questions they can ask As the lecture course example illustrates, much of this mediating activity has been and is still being performed by graduate assistants or by part-time adjunct faculty Some tenure-track faculty members do not want to perform this role and are not trained to do it Many faculty members may not be comfortable with the level of interpersonal interaction required for successful mediation In other cases, faculty members are rewarded for other activities such as research and student contact hour production In the future, full-time teaching professionals who are neither apprentices nor adjuncts may perform this activity more frequently (Baldwin & Chronister, 2000), although they are not the disciplinary experts typically thought of as "the faculty" Valuing the mediating activity may validate the work now largely accomplished by adjunct faculty and graduate students The creation and acceptance of full-time teaching professional positions may allow many adjuncts to become full-time employees Traditional institutions potentially can produce more effective learning environments by parsing out and valuing all instructional activities and the people who accomplish each of them

Thinking about instruction as five discernable activities may also identify unproductive activities in which faculty invest time Unplanned technology initiatives can exacerbate time spent on unproductive activities For example, as mentioned previously, faculty members who spend time learning specialized software (such as HTML or XML) instead of relying on on-campus experts and widely available products may spend less time on more productive instructional activities First and foremost, faculty members are subject-matter experts Their time should be devoted to helping others—students and external providers—understand and apply their subject matter Faculty time is not well spent on writing code for Web-based instructional materials, figuring out how to make a video with bells and whistles, or researching the technology-pedagogy mix best suited for a particular type of course Technology and instructional development specialists are better able to carry out these functions

In the age of book and blackboard, a faculty member could create everything necessary to deliver a particular course (although most relied on textbooks written by someone else) This era was characterized by yellowed lecture notes, a stock of examination questions, and the faculty member's use of unique anecdotal information to illustrate particular points Times have changed, students have changed, and research on learning has revealed many sound "protocols" of proven pedagogical effectiveness (Chickering & Gamson, 1987) Unbundling permits administrators and their faculties to focus faculty attention on the material they must know intimately to be good teachers Programmers, instructional developers, and videographers (among others) can translate the subject matter—learned from the faculty member—into instructional materials to take full advantage of pedagogically sound uses of modern technology

An obvious first target for unbundling is the traditional lecture course Recent studies at several large community colleges (Twigg, 2000)—confirmed by federal transcript studies for all types of institutions (Adelman, 1995)—suggest that up to half of the credit hours produced at the lower-division level at American colleges and universities are concentrated in only twenty-five or so course titles Rather than having each faculty member at an institution assume responsibility for a specific course, consider a modern alternative Imagine a few dozen scholars with national reputations and expertise in these fields determining and delivering the requisite subject matter material in these courses World-class faculty members (individually or in teams) could present this instructional material in a format both absorbing to watch and enticing to use State-of-the-art video or computer production studios with a full array of visual and audio effects at their disposal could create such material Michael Saylor has proposed this approach for his new online university (Steinberg, 2000) Cardean University, a subsidiary of UNext com, originally established to deliver high-end MBAs and business learning opportunities, has adopted this approach More traditional institutions of higher education, advised by faculty committees, could buy and present these materials to student audiences in a variety of formats including technologically sophisticated large lecture halls, small seminar groups, and computers in or outside of regular class time The costs of acquiring these materials—together with any requisite capital conversion costs, say, for a technologically sophisticated lecture hall—can be amortized over many years Meanwhile, the faculty at institutions utilizing these materials can use the time that they would otherwise spend preparing and delivering lectures to focus more fully on other instructional activities such as mediating, that is, helping students make sense of the subject matter

Unbundling can also be useful in comparing the costs associated with different forms of instruction (Jones, 2000, Jones & Jewett, 2000, Wallhaus, 2000) Because many current cost and workload studies include only the time spent by full-time tenure-track faculty members, the work done by graduate assistants and adjunct faculty is not incorporated When teaching professionals' time is included and accounted for—as well as the costs of any associated technology—institutions can obtain more accurate estimates of instructional costs

Research on the costs of distance education versus traditional courses is scarce and gives mixed results Some researchers find teaching in a distance format is less overall work than on-campus instruction (DiBiase, 2000) Others find that distance-delivered courses take significantly more work (Visser, 2000) Several problems complicate this assessment We lack prior time and cost data for instructional activities in traditional courses In addition, comparing instructional activity, time, and cost data for courses at different points in the development process (for instance, never-before-offered with mature courses) is problematic Also, instructional activity and agent data gathered are often incomparable The problem of incomparability in cost studies is partially addressed by the use of unbundling (Jones, 2000) By identifying and defining specific instructional activities—and standardizing these definitions—decisions can be made regarding whether an activity explicitly occurred, who or what accomplished that activity (instructional agent), how much time was spent by which agent on the activity, and how much money was used on that activity

Until recently researchers have defined these unbundled activities or tasks based on personal experience or observation For example, DiBiase (2000) identified setup, coordination, student contact, authoring, and assessment as the elements of instruction for his study Visser (2000), on the other hand, defined three broad categories of instructional activity each with subcategories "Course Content Development" included "select texts/readings, prepare syllabus/course calendar, write course lectures/presentations, prepare readings study questions, prepare exams/tests, prepare term paper assignments, and prepare case study materials" (p 25) "Course Adaptation for Distance Education" contained "course web site design/posting, case study web site design/posting, distance education training Web/TV, meetings with DE staff and GA, and grant writing/work planning" (p 25) "Course Delivery" was "post weekly online assignments/tests, grade assignments/tests, student troubleshooting/e-mail/office hours, prepare student evaluation survey, monitor/lead BB/chat room sessions, prepare for ITV sessions/F2F classes, and conduct ITV sessions/F2F classes" (p 25) While unbundled activities provide a sounder basis for determining instructional costs per student than is possible with the broad categories of teaching, research, and service, without some alignment or standardization of the activities, little meaningful comparison is possible

Conclusion

Most academic institutions have not systematically examined the unbundling of faculty roles In particular, traditional colleges and universities have not paid sufficient attention to the growing need to acquire and nurture a new kind of "para-professional" staff to support ongoing instructional development These para-professionals are technologically skilled, schooled in various pedagogical approaches, and sufficiently anchored in the disciplines to be credible with mainline faculty The role of teaching professionals and para-professionals must be explicitly included when conducting institutional workload and instructional cost studies or planning future forms of instructional delivery As has been documented in several recent pilot projects, this approach leads to better learning outcomes and lower costs (Twigg, 2000)

The successful application of unbundling depends on the resources made available for instruction, faculty reward structures and incentives, and policies governing intellectual property rights (Berg, 2000, Hagner, 2000, Lewis et al , 1999, Passmore, 2000) Resources from external foundations to support initial innovations must be supported by institutional operating funds to institutionalize reforms Intellectual property rights affect the ability of academic institutions to foster technological applications in instruction The key obstacles to reform, however, are faculty reward structures and promotion and tenure guidelines Hagner (2000) found that faculty rewards do not impede "early adopters" and "second-wave" faculty from participating in innovative instruction, whereas the "third-wave" of faculty members crucial to sustainable reform participate only when the reforms are seen "as a way to advance their professional careers" (p 31) The potentially substantial changes in faculty roles and rewards implied by unbundling will inevitably have an impact on faculty cultures Few institutions have restructured their faculty recruitment, development, and reward policies to account for distinct types of instructional personnel Still fewer have directly involved their faculty in collective discussions about why such moves are necessary and how they might best be accomplished

Academic leaders should view unbundling and technology as cost-effective ways to enhance student learning productivity Improving access and learning are the desired outcomes, not eliminating faculty positions, as some might perceive Yet financial concerns will force both administrators and policymakers to find ways to make limited teaching staffs serve ever larger student bodies The means exist to accomplish this goal and the laws of the market will eventually reach it one way or another Reconceiving instruction and its component activities more deliberately, thinking of faculty time as an intentionally deployable institutional asset, and providing faculty with the appropriate resources (including paraprofessionals and instructional development) and reward structures needed to make their teaching more productive—in active partnership with the faculty themselves—is surely the better route

Notes

[1] This article sets aside the tangle created by intellectual property rights of who owns courseware when institutional offices conduct a certain percentage of the development

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Jeroen Huisman
Egbert de Weert
Jeroen Bartelse

Academic Careers from a European Perspective

The Declining Desirability of the Faculty Position

Introduction

Internationally, the fault lines of an uncertain academic career are becoming increasingly apparent Despite extensive preparation, young academics confront restricted opportunities to become regular members of the academic community Many of them are on a temporary contract, often with poor working conditions and uncertainties about reappointments A long academic career seems unobtainable, which can lead to a negative image for academic employment Those who opt for an academic career run the risk of moving from one contract to another without the opportunity to establish a particular research program Finkelstein, Seal, and Schuster (1998) found that a large segment of the new academic generation in the United States have entered into "temporary" positions not part of the traditional academic career ladder

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Jeroen Huisman, Egbert de Weert, and Jeroen Bartelse are researchers at the Center for Higher Education Policy Studies, Faculty of Public Administration and Public Policy of the University of Twente, the Netherlands

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Farnham (1999a) and Altbach (2000) have shown that this phenomenon is not limited to the United States In some countries, the transition from elite to mass higher education has occurred in a time of substantial decline in government funding and changes in resource allocation methods Funding has not kept up with rising student numbers This trend has led to significant retrenchments, privatization, debates about fees, a decline in academic salaries relative to average earnings in other employment sectors, and heightened perceptions of uncertainty among academics (Welch, 1998)

Universities have reacted to these developments by realizing changes in the balances of tenured, permanent, fixed-term, and part-time appointments A larger proportion of temporary personnel relative to tenured personnel would increase the adaptive power of universities toward varying external circumstances such as changing student numbers, budget cuts, and other financial variables In most European countries universities have placed younger staff in the nontenure-track appointments Although in the United States many of the staff on temporary contracts focus on teaching, in European countries individuals on fixed-term contracts often focus on research

These limited career prospects within academe have raised questions about the attractiveness of an academic career Recent reports in the United Kingdom (UK) and the Netherlands warn that recruitment and retention of academic staff is worsening by the year, and that the number of students pursuing the doctorate is decreasing Some European countries have created new institutional forms for the early socialization of faculty members Others have made major adjustments to the doctoral degree Some recent proposals focus on enhancing the career prospects of junior researchers

The widely held belief in the United States is that the faculty position is attractive and prestigious enough to encourage a sufficient supply of future faculty members irrespective of the current poor labor market Research by Baldwin and Chronister (2000) and by Gappa and Leslie (1993) support this view They found that many nontenure-track staff and part-time faculty members, respectively, aspired to full-time faculty positions despite less-than-happy experiences in nontenure-track positions

This perspective is not universal In particular, we challenge the premise that academic positions in Europe are so desirable that labor market supply will "naturally" take care of the projected future faculty shortages Indeed, we argue that European countries must carefully scrutinize the pre- and early career stages of potential faculty members and make important changes or their universities will face severe faculty shortages

In this article we first provide an overview of the academic training system in four selected European countries the United Kingdom (UK), Germany, the Netherlands, and Sweden These countries vary considerably in their organization of scientific careers in universities and research institutes Next we examine the training system for potential academics (structure, admission, funding), the status of young scientists with a special focus on women, and factors affecting academic staff recruitment and retention In the final section we reflect on the potential side effects of current career environments and the key policy challenges for the recruitment and retention of new academic staff

Data and Methods

Data for this article were derived from an international comparative study of academic careers in Western Europe The Dutch Advisory Council for Science and Technology Policy commissioned the study Its main objective was to investigate the issue of academic careers in a number of Western European countries (Finland, Germany, Sweden, United Kingdom, and the Netherlands) and to observe the present-day state of the art and developments in the Netherlands from a comparative perspective Country experts were approached and asked to deliver country reports, utilizing an outline drafted by the project coordinators We asked an expert in each selected country to describe and analyze, quantitatively and qualitatively, doctoral education (e g , number of PhD students and graduates, financial aspects, transfer to post-PhD period) and academic employment (e g , rank structure, salaries, career perspectives) in the context of their higher education systems These project coordinators used national data sources, reports, and archives to provide a comparative analysis For this article we used these reports for a comparative analysis across European countries and between Europe and the United States

United Kingdom

The Training System

Traditionally, postgraduate study in the UK is an inseparable feature of a seamless educational path flowing from undergraduate, to graduate, to postgraduate studies Postgraduate education is an important source of revenue for higher education institutions, which have been granted substantial autonomy in setting fees for postgraduate students Prospective PhD recipients either take a one-year master's degree after the bachelor's degree or enroll in a three-year doctoral program directly after completing the bachelor's degree In the social sciences and humanities, students most often take the former route Part-time students are granted nearly double the time of full-time students to complete PhD requirements

By the end of the 1980s the traditional one-on-one model of doctoral preparation where a student worked almost exclusively with a major professor through completion of the dissertation had been replaced in the UK by a curriculum incorporating formal research training Research training courses were made part of the PhD to increase completion rates Since the mid 1990s some institutions have considered making compulsory a master of research prior to pursuing doctoral studies, but opinions on this initiative differ by discipline In the UK, the ultimate aim of the PhD is to make an original contribution to knowledge as evidenced by submitting a thesis of between 70,000 and 100,000 words The submission is followed by a final oral examination

Formal qualifications and a thesis outline are the most important criteria for admission into a PhD program, supplemented by interviews to estimate the candidate's motivation PhD students applying to research councils for funding must demonstrate even higher levels of performance, including top grades in a good honors first degree

The financial situation for doctoral students differs by type of enrollment (full-time versus part-time), and by discipline and status (being a research council student or not) In contrast to some European countries, most PhD students in the UK are not university employees PhD students—like other postgraduate students—pay study fees Recent data on PhD students in science and technology (OST, 1999) indicate that research councils are the most important sponsor of doctoral work (35% of the funding), followed by other public sources (26%) One-fifth of all PhD students pay their tuition fees For part-time students this proportion is much higher, almost 50%

PhD students funded by research councils receive a grant for a three-year period This grant is less than 40% of the mean starting salary for graduates, implying that the PhD track is not a very attractive financial option The situation is better for the relatively few students funded by specific trusts (e g , the Welcome Trust promoting biomedical research), but much less favorable for part-time students, who only recently were made eligible for research council support

In the past two years universities in the UK awarded some 10,000 to 11,000 doctorates, about one-third to overseas students This total represents an increase from 7,500 in 1995–95 On average students take more than three years to complete their doctoral programs Almost all—80% to 90%—of doctoral students complete the degree The average age of

PhD recipients is well below the age of thirty. In 1998–99 PhD degrees represented 3.2% of all degrees awarded in higher education in the UK. Despite the increasing number of degrees awarded in the past four years, recently the number of PhD students has decreased (OST, 1999). The attractiveness of other employment possibilities seems particularly important in this trend.

Position of Young Scientists

Although the PhD has become an almost necessary entry ticket to the academic career in British universities, it is less prevalent in the former polytechnics. Studies monitoring the positions acquired by PhD recipients show that the percentage working in universities decreases considerably over time. In contrast, private sector employment has increased.

Entering academics encounter several barriers to a successful career. Academic committees make promotion decisions based on guidelines created by national organizations (e.g., CUCO, 1997). Particularly important is the Research Assessment Exercise, which has increased the importance of research productivity in assessing faculty performance. In addition to status, faculty research productivity is tied to the amount of government money awarded to each university.

Besides quality of work, promotions depend largely on the financial constraints of the institution. These constraints can make institutional leaders cautious (Fulton, 2000). Also, promotion is inextricably bound to the rank structure of lecturer, senior lecturer, and professor at universities, and to lecturer, senior lecturer, principal lecturer, and professor at the former polytechnics. Although salaries depend in part on national negotiations, institutions retain some flexibility, particularly for higher ranks. The historical division among universities, particularly between the traditional universities and the former polytechnics, is still reflected by considerable salary differences between old and new universities.

Women are substantially underrepresented among the professoriate in the UK as are members of ethnic minorities and the disabled community. The percentage of female students receiving a first degree is 54%, at the PhD level this percentage drops to 37. Only 10% of the professoriate are female. In addition, women occupy less secure positions, including contract staff and part-time positions, and earn less than their male colleagues, even if grade and mode of employment are the same (Bett, 1999).

The Bett Committee, following up the work of the 1997 National Inquiry into Higher Education (Dearing Committee), noted that pay in the academic sector has fallen behind equivalent positions in industry. A pay-gap of between 10% and 30% is common (Bett, 1999). Several studies have indicated that the low salaries are among the reasons individuals leave academic positions or consider leaving them (NCIHE, 1997)

Factors Affecting Academic Recruitment and Retention

In the last decade the supply of PhD students exceeded the demand for university faculty positions Many graduates looked beyond academe for alternative careers This pattern led to proposals to broaden postgraduate training to include skills relevant to other sectors of the labor market through a "professional doctorate" Today the conversation has shifted from oversupply to potential shortages of faculty because of dramatic declines in doctoral enrollments in some disciplines To increase doctoral enrollment, the UK government recently increased financial support to research councils to support doctoral study

Increasing staff load, a decrease of autonomy, long-term decline in salaries, and rewards biased in favor of research have made academic positions in the UK less and less attractive (Farnham, 1999b, Fulton, 2000, Keep, Storey, & Sisson, 1996) This trend confirms the 1992 Carnegie survey where faculty members expressed concern about salary, status, and conditions of work (Fulton, 2000) Job certainty does not help, 30% of the staff in traditional universities, 40% in former polytechnics, and 95% of contract research staff are employed on temporary contracts Although the 1999 Bett Committee publicized these trends and conditions, it was not successful in generating additional public monies for universities

Germany

The Training System

Germany's higher education system is rooted in the ideals of the university that emerged at the beginning of the 19th century Independence of scholars, the autonomy of teaching and learning, and a genuine scientific culture were among the key elements of these ideals (Paulsen, 1906, p 520) In practice, these principles lent themselves to multiple interpretations (see Clark, 1995, pp 21–24), and the ideals took disparate paths across the universities However, some of the original beliefs are still vital and remain reflected in education and research Still standing is the unity of teaching and research, which can be found in the apprenticeship model of doctoral research the *Doctorvater* who in a one-to-one relationship guides the doctoral student by way of learning by doing

Several institutional forms advanced science and the training of scientists The first was the teaching-research laboratory (Clark, 1995, pp

24–30) such as the laboratory of the chemist Justus Liebig founded in 1826 in Giessen Another form to combine research with teaching was the research-oriented seminar The classic model here is the Neumann seminar in physics established in Konigsberg in 1834 The laboratories (later named research institutes) and seminars were autonomous, relatively small organizations headed by the chair-holding professor These influential figures ran the institutes and seminars and were sovereign in their scientific pursuits The institutes and seminars gave the German higher education system its high esteem in the late 19th century (Geiger, 1986)

Between World War II and the early 1990s, individuals aspiring to a doctoral degree have sought a junior research post The doctoral candidates in these positions combine their research work with teaching and other activities This approach provides professional experiences and skills but lengthens completion times (Baldauf, 1998) Research training at the doctoral level is not formally organized German universities in the 1980s did not "offer doctoral *programmes* incorporating a minimum systematic institutional effort to qualify candidates further It is entirely a matter of the individual master/apprentice relation between the candidate and 'his' supervisor whether he gets training and advice in his work and, if so, how much" (Huber 1986, p 302) Since the early 1990s German doctoral education increasingly has relied on formal courses—up to half of the junior staff working on a doctoral thesis now take courses—although candidates still perceive doctoral study as an informal learning process (Enders, 1996, p 165) This process varies considerably by discipline

The most visible reform in German doctoral education is the introduction of a system of graduate schools in 1989, the so-called *Graduiertenkollegs* Although the *Graduiertenkollegs* have not replaced the traditional doctoral pattern, they mark the beginning of a formal alternative Among the elements that gave impetus to this reform is the position of the young scientist (Wissenschaftsrat, 1994)

Position of Young Scientists

About 63,000 doctoral candidates currently work on the thesis in Germany today These doctoral candidates may work in various types of positions (Wissenschaftsrat, 1995, pp 23–36) Universities employ roughly seven out of ten doctoral candidates in 'junior positions' (usually called wissenschaftliche Mitarbeiter) Often the contracts are temporary Doctoral candidates may go through several of these contracts during their doctoral work Mainly because of the growth in contract research, the number of *wissenschaftliche Mitarbeiter* grew between 10 and 15% in the 1990s (Baldauf, 1998, p 169) Research institutions outside the universities employ another 4,500 doctoral candidates, usually on three-year contracts Doctoral work is also funded by grants Other organizations provide about 8,500 additional stipends The *Lander* grant supports about 2,500 stipends yearly The DFG funds approximately 2,300 doctoral students through its graduate school program Political parties, churches, and trade unions provide about 2,700 doctoral grants with strict eligibility conditions Approximately one out of ten doctoral candidates prepares a dissertation without any external financial support (Wissenschaftsrat, 1995, p 36)

The doctoral degree is relatively highly esteemed in the German labor market Enders and Boorman (2001) indicate that apart from the self-reproduction of the academic profession, PhD holders can be found in research positions in the public and private sectors and in professional and semiprofessional leadership positions in government and private organizations A study of junior staff working on their doctoral thesis concludes that "data show that the academic work and further qualifications of doctoral staff cannot be interpreted as the preparation for an academic career, but must also be interpreted a preparation for future employment outside higher education The majority of doctoral staff do not intend to continue an academic career and nearly all of these junior staff members in all fields expect that they will have to leave their university and the area of higher education" (Enders & Teichler, 1994, p 31) This situation is in part a consequence of the systemic characteristics of the structure of academic careers in Germany, which we discuss below

Factors Affecting Academic Recruitment and Retention

Three characteristics describe academic staff in Germany (Baldauf, 2000, Enders, 2000), some of them stemming directly from German traditions in higher education First, the professor functions on top of a hierarchically structured academic organization The state grants a professor life-long tenure and a high degree of autonomy Second, aspiring professors are legally required to take their first position outside of their home university Thus aspiring scholars must focus more on personal achievements than on university needs to better prepare them for subsequent academic employment Third, the gap in status between the privileged professoriate and the larger group of less privileged, predominantly untenured assistants, researchers, and lecturers is substantial and built into the German pattern of academic staffing

In this context, individuals pursuing an academic career must first obtain the position of an assistant or postdoctoral fellow to prepare for the *Habilitation* Aspiring academics use the *Habilitation* as a period to demonstrate research capacity and teaching qualifications The next stage in the academic career is the position of the private lecturer. This position holds the right to perform the tasks of a professor without being connected to formal employment status Appointment to a professorship requires successful navigation of a competitive appointment procedure conditioned by a strict set of regulations to assess scholarly qualifications

The many haphazard steps in the academic career create large opportunity costs for prospective faculty members "Young" PhD recipients and especially "young" academics in Germany are older than their foreign peers At various stages, an individual may step out of academia or fail to reach the next stage On average 20 to 40% of PhD holders will work in academe over the long run

Reforms for postdoctoral researcher careers focus on three issues First, promotion possibilities for junior staff currently are too uncertain and too dependent on senior professors Because promotion to a professorship is not possible at the institution where the researcher works, career prospects are dependent on local affiliations Promotion ladders for junior staff depend on the situation within the university—the internal labor market—whereas the external labor is dominant in nonacademic careers Second, postdoctoral researchers spend many years in junior positions and are relatively old when starting a formal research position in universities Third, postdoctoral researchers who aspire to a professorship face an "all or nothing" situation Enders (1996) points out that this situation leads to low job-satisfaction among the nonprofessorial staff

Academic and governmental leaders currently are considering both a new academic career path, including assistant or junior professorships, and lifting the ban on appointing members of the university to vacant professorships Another proposal is to introduce a tenure-track model instead of the current contract model for postdoctoral careers The most radical proposal is to abolish the *Habilitation* (see Enders, 2000) Those favoring this proposal refer to other countries that do not have this qualification In the natural sciences, substitution of the *Habilitation* with other criteria (such as publications in refereed journals) seems to come close However, in the humanities and social sciences proponents of the *Habilitation* are still numerous

The Netherlands

The Training System

Most faculty members enter the academic profession through the research trainee program called the AiO-system (AiO, *Assistant-in-*

Opleiding) The AiO system originated from university reforms in the mid 1980s to reduce the length of university education and to restructure research training Until that time research training was an integral part of the standard university education amounting to six or seven years Graduates who obtained a position at a university could carry out their own research leading to the doctoral degree The AiO-system made research training a formal part of postgraduate education Today a first degree takes four years full-time, after which graduates are eligible to become a research trainee

Contrary to postgraduate research training elsewhere, Dutch research trainees hold a distinct academic position They have a temporary appointment in principle for a standard four-year period and are treated as members of the academic staff Although research trainees receive research training and supervision, they are also supposed to contribute to the research output of their faculties Usually they are charged with teaching and other obligations up to a maximum of 25% of their total working time The candidates are successful when they deliver and defend their thesis, after which they receive the doctoral degree

The Dutch postgraduate education system has an alternative to the AiO, the scholarship or *bursalen* system Scholarships offer financial benefits to Dutch universities because the institution is not charged unemployment benefits if the graduate is unable to obtain a position at the institution after graduation As employees, research trainees in the AiO-system are entitled to such benefits The scholarship program has been criticized and challenged, but the courts have held that the *bursalen* system is legal, because the education and training benefits individual scholarship holders rather than the university In general, *bursalen* holders are students and AiO-system participants are employees To date only a few universities offer scholarships Typically these scholarships are offered to students in the humanities and social sciences which have fewer research funds for young academics Less than 25% of all PhD students have a scholarship, the others are in the AiO-system

The AiO system has expanded steadily since its start in 1987 It peaked in 1992 with a total of 2012 trainees Since then it has varied between 1800 and 2000 participants About 9% of all university students enroll in a research trainee position This percentage varies considerably by discipline it is much larger in natural sciences (about one out of three graduates) and medicine (one out of five) than in other subjects Admission is based on an open selection system, although the mobility of graduates to apply for a place at another university is rather low

Position of Young Scientists

The AiO-system has successfully attracted promising young scientists into academia The AiO-system is credited in part with increasing the number of doctoral degrees awarded in the Netherlands It provides a structured way of learning to conduct research The establishment of research schools, cooperative bodies of similar faculties across universities, also has had a positive effect (Bartelse, 1999) The overall completion rate of the candidates after 6 years is 55% There is pressure on research trainees to finish within four years because university funding partly depends on completion rates and the number of doctorates awarded The salary of the AiO's is based on a special salary scale with a built-in reduction for the training and supervision they receive The deduction decreases from 45% in the first year to 15% in the fourth year These cuts reflect the hybrid character of the AiO-position recipients are neither full-time employees nor full-time students

Recently the AiO-system has come under attack The salaries do not reflect the actual research work required Although the AiO-system is a necessary step in an academic career, the career prospects are rather uncertain with few possibilities for tenure-track appointments The AiO-system was never meant solely as preparation for an academic position, but most individuals who accept an AiO position are interested in an academic career A recent survey among AiO's (Keijzer & Gordijn, 2000) revealed that the majority are unsatisfied with the salary and the unfavorable career prospects Most of them have a strong preference to continue their research after they finish the PhD degree At the same time they judge their chances of getting a faculty position as very low because of the few posts available

Most new PhDs who remain in academe find a postdoctoral appointment Although a post-doc position can be a bridge between the PhD and a permanent position, in practice most post-docs are caught in the squeeze of increased supply amid declining opportunities Most post-docs have a series of two or three-year contracts, becoming in practice nontenure-track staff (Crum & Ball, 1998)

Low financial rewards and uncertain future prospects for university employment have led to declines in research trainees, especially in fields with high private sector demand Institutional leaders and politicians have expressed concern about the declining attractiveness of the research system and the difficulty in retaining young researchers This dilemma is crucial, because a large part of the permanent academic faculty will retire in the next five years The Netherlands Bureau for Economic Policy Analysis (CPB) indicates that the combination of retire-ments and declining AiO participation will result in a shortfall of 2,886 full-time faculty by 2008, about 12% of all faculty Shortages are forecast for all functional categories, especially among associate and assistant professors (Van Dijk & Webbink, 2000) One national report urged new policies to encourage doctoral enrollment before the influx of talent is too small to fill needed positions (Projectgroep Wetenschapspersoneelsbeleid, 2000)

The situation for women is especially problematic Women constitute about 50% of the student population overall, about 30% to 38% of AiO participants, depending on the discipline This percentage dwindles by career stages, particularly in the tenured positions The Netherlands has one of the lowest proportions of female professors (7% in 1999) in Europe Noordenbos (2000) portrays the Dutch university as a monastery Explanations for gender disparity include the emphasis on full-time appointments, which disadvantages women who want to work part-time (Portegijs, 1998), a masculine university culture, and gender bias in staffing review procedures (AWT, 2000)

Factors Affecting Academic Recruitment and Retention

Several initiatives have been taken to retain young promising academics for the university Some universities are offering higher salaries for the trainees, particularly in subject areas with projected faculty shortages such as engineering Other fields have introduced new types of appointments, such as tenure-track appointments and junior professorships Some institutions have reduced the four-year AiO period to make the PhD more attractive to young people who want to speed up preparation for careers outside of academia Other faculties cater to the international graduate market and attract a growing percentage of their graduate students from Asian and Eastern European countries

Some research councils try to encourage potential academics to stay in the university to fill future faculty vacancies by extending temporary research contracts with the condition that the university guarantees a permanent position thereafter In addition, government, research councils, and universities have jointly made funds available to enable a selective group of young researchers to carry out innovative research programs Another government initiative funds promising scholars specifically for positions where the sitting professor will retire in a few years This temporary double staffing is intended to ensure that a replacement is ready when the senior professor retires

To redress the underrepresentation of women at Dutch universities in 1997 the Dutch government passed the Equal Representation of Women act to require universities to set targets and develop structural plans to promote women faculty members. In addition, the government initiated a program called Aspasia to invite women to submit research proposals to research councils that if accepted will result in an offer of a permanent position by the university.

Although the number of places available is quite limited, these examples illustrate the Dutch way of improving the careers of young people and women in the profession through financial incentives. The aforementioned National Committee on Personal Policies recognized that more structural solutions are necessary. The committee believes that universities should improve the general conditions under which young researchers work.

Sweden

The Training System

To pursue a PhD, individuals in Sweden must first finish a three-year bachelor's degree. Increasingly the master's degree, recently introduced into the Swedish system, is a prerequisite for admission to postgraduate studies. In recent years, between 6 and 7% of bachelor's degree recipients pursue postgraduate studies. This percentage is small in part because only a few undergraduate programs prepare students for postgraduate education. The postgraduate track takes four years to complete.

No general regulations govern the selection of PhD students apart from these formal prior degree qualifications and the requirement that candidates must have guaranteed funding through graduation (stipulated by the PhD reform of 1998). Increasingly, selection into doctoral programs depends on academic achievement in the master's program.

Universities, research councils, recently established research foundations, and private sources fund postgraduate training. The available resources can be used for scholarships and study grants. About 40% of the doctoral students hold a doctoral scholarship, about 30% receive external funding. The rest rely on some form of employment or combine scholarships and employment. Although PhD students can receive both a grant and a salary, regulations state that no more than 20% of the time may be spent on other purposes than study.

The number of postgraduate degrees increased from 1,500 in the early 1990s to about 2,000 in 1998–99. The number of PhD students grew about 60% in the past decade. About 17% of the PhD candidates are foreign students (SUHF, 2000).

Despite the growing numbers, national and institutional policymakers worry about the skewed distribution of PhDs across the disciplines. Most are in the sciences and engineering. Relatively few are in the humanities and the social sciences Even more alarming is the time to degree Only in medicine do students finish the doctorate within a nominal time period In other disciplines, particularly the humanities and social sciences, the net time to degree is much longer The large number of part-time PhD students means the gross time to degree is even longer, leading to a relatively high average age at graduation about 35 years (again with large variation across the disciplines) PhD students complain about limited financial support, excessive thesis requirements, and other duties such as teaching that prevent them from finishing the dissertation (SUHF, 1999) Representatives from industry also criticize doctoral preparation as inadequate for careers in industry

Position of Young Scientists

Employment prospects for PhD graduates are fairly good in Sweden The employment rate is high, and students shortly after graduation find a job, many of them in permanent positions On average, postgraduate degree holder salaries are 45% higher than the salaries of recently graduated first degree students Of all PhDs, 45% stay in the higher education sector, 29% work in the private sector, and 26% move to the public sector (SUHF, 1999)

Despite this relatively rosy picture, the salaries for academic staff in Sweden are lower than salaries in many other European countries They are generally lower than comparable positions in industry According to data from Statistics Sweden and the Swedish Association of University Teachers, in the last decade the salaries of professors and other academics at universities increased less than did salaries of other professional groups in the public sector On the other hand, academics have been less subjected to cutbacks in their sector than professionals in health care, primary education, and social welfare (Askling, 2000) Recent changes in national policy have given academic institutions more control over personnel hiring and pay This policy change has resulted in substantial and growing salary discrepancies between institutions and even within institutions by discipline

Promotion within the professoriate is based on the peer judgments about the competence of the individual teacher The previous approach followed the German tradition, where professors did research and senior and junior lecturers taught undergraduate students Recent reforms of the faculty career system try to end this distinction, creating a single career track where both research and teaching productivity are expected

The postdoctoral phase is a bottleneck in the system There are relatively few positions in academia to meet the demands of the new generation of PhD holders The growth of academic faculty has not kept pace with the rise in student demand. Reductions in administrative staff to control costs have shifted many administrative duties to junior researchers and doctoral students. Faculty today work an average of 49 hours per week (NAHE, 2000).

The striking feature of the Swedish academic labor market is low mobility. Only a minority of Swedish faculty members ever moves from one institution to another. For example, the vast majority of students continue postgraduate studies at the same institution where they received the first degree. Two-thirds of the professors at an institution received the PhD from the same institution.

Although somewhat improved over time, the position of women in Swedish academic life is still problematic. Of the postgraduate students in 1998, 42% were female. Only 10% of all Swedish professors are female. In addition to being more likely to be junior in rank, women in Swedish universities must produce more than twice as much research as their male colleagues to be assured of financial support (Wennerås & Wold, referred to in Askling 2000).

Factors Affecting Academic Recruitment and Retention

Although Sweden is not confronted by a shortage of PhDs, other problems exist. The relatively unstructured and long PhD track deters some students from pursuing postgraduate study. The introduction of a more structured program in 1998 and the current proposal to introduce research schools were meant to streamline the degree process.

In 1999 the Swedish government introduced new rules and regulations concerning employment, recruitment, promotion, and working hours for academics. These regulations attempted to reduce the odd combinations of national rules and local responsibilities, combine research and teaching into the faculty job description, and encourage a system to replace retiring faculty members. The legislative reforms created a new faculty career track where both research and teaching are considered in promotion decisions. This legislation also required academic institutions to develop formal staff management policies (Askling, 2000). The new policy combining research and teaching in the faculty promotion process has increased the percentage of women professors in Swedish universities.

Comparative Analysis and Key Policy Challenges

These four European countries have different postgraduate training traditions, ranging from the relatively informal arrangements in the German apprentice model, to standard training courses for PhD candidates in the UK. Since the 1980s, many European countries have reexamined postgraduate training. Inspired by the American example, the Dutch, German, and Swedish governments are developing graduate schools to organize postgraduate training. The key feature in all of these graduate schools is bringing together the various aspects and capacities of doctoral education into a single location or process. The format of this concentration takes various forms, ranging from loose collaboration between institutions to the establishment of special institutions for research training. Although in its infancy, recent trends suggest that graduate schools can increase the number of doctorates awarded by European universities.

More effective and efficient production of doctorates, however, does not solve many internal and external labor market pressures. The private sector often offers better salaries and career prospects, which adversely affects the recruitment of PhDs into academe. Increased production of PhDs to date has not been matched by expansion of full-time faculty positions in European universities. These factors combine to make the academic career less attractive to prospective faculty members.

Gender bias remains. Although the proportion of women in postgraduate training has increased, the proportion drops precipitously in postdoctoral programs and in tenure-track faculty positions (most visibly at senior levels) (ETAN Working Group, 2000).

The initial response to these dilemmas in the UK and the Netherlands is to increase pay as an incentive for doctoral students to complete their studies and consider academic positions. This injection of funds is seen as a necessary condition for universities to effectively recruit and retain young talent. Increased funding may be even more important in retaining junior faculty members, especially in high demand fields.

Yet by itself increased pay and resources do not address key policy questions about what constitutes an optimal academic career and how this career should be developed. The keys to making academic positions in German universities more attractive to young PhDs are to break through the prevailing strong hierarchical ladder, making junior staff less dependent on their professors, and to reduce the duration of postgraduate studies by abolishing the *Habilitation*. Another strategy is to develop genuine tenure tracks, providing a career path based on concrete career steps. This approach requires considering the distinction between tenured and temporary positions and the rigidities between them. De Weert and Van Vucht Tijssen (1999) advocate the establishment of more varied faculty career paths and a less sharp demarcation between tenured and temporary staff by linking tenure to regular assessment procedures.

The attainment of senior professorships, and the dominance of these positions in most European universities, rests on high research productivity Increasingly, European institutions of higher education have questioned the traditional belief that research productivity assures good teaching Feldman's (1987) research in the United States supports this concern He found a negligible correlation between research productivity and teaching quality, concluding that the two skills are more independent than mutually reinforcing Boyer (1990) and Fairweather (1996) have questioned the dominance of the role of research in academic careers, advocating other forms of scholarship including the scholarship of teaching The UK, Sweden, and the Netherlands recently acknowledged the importance of teaching qualifications and initiated teaching professional development training programs on a voluntary or a compulsory basis Advances in technology and the use of ICT in the teaching process will trigger this development further A few European universities now permit a faculty member to become a professor on the basis of teaching qualifications, although this approach is still the exception and not the rule Whether or not these developments will lead to a new structure for academic positions remains unclear

The Athena project in Britain and the Aspasia program in the Netherlands are examples of efforts to increase the number of women academics Critics have argued that these programs are but a drop in the ocean, and that more radical measures are needed Although the progress to date is limited, it appears that women promoted through these programs are more likely to develop their own research lines

Finally, the content and character of postgraduate training affects degree completion and commitment to pursue an academic career Although doctoral education in Europe is traditionally seen as a mechanism to create the next generation of scholars, our research shows that an increasing number of graduates seek employment outside the academy The question arises whether or not the doctoral process is properly designed to meet society's demand for highly educated professionals or even adequate to prepare the next generation of faculty Doctoral study, as Boyer states, is all too often "a period of withdrawal—a time when many students are almost totally preoccupied with academic work" (Boyer, 1990) Doctoral candidates should be encouraged or given the opportunity to see connections between their academic training and their future careers In Britain, the professional PhD has gained acceptance in the field of education, as an example In the other countries, we observed some collaborative arrangements between universities and industry to make technological research part of postgraduate training Universities and industry may end up creating dual, co-operative systems of postgraduate education where students alternate their research and their work

Conclusion

The European experiences show that the academic career is surrounded with many uncertainties Because of the limited chances of pursuing a career in academe, many universities have difficulty in attracting PhD students Recruitment and retention of academic staff is increasingly problematic, making staffing a priority area Poor academic pay is undoubtedly a factor behind the drain of young brains to the private sector There is increasing awareness, however, that the problem cannot be fixed simply by creating more positions and increasing salaries The fundamental problem in Europe is the loss of appeal of the faculty job Several policies hold promise for making the faculty job attractive again, especially to the younger generation in Europe These include developing alternative forms of doctoral preparation, creating opportunities for young scholars to develop challenging research programs, cutting through the strong hierarchical ladder particularly in continental European systems, promoting of equal opportunities for women, and improving facilities and working conditions

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Review Essay

Interpreting Academic Identities: Reality and Fiction on Campus

Ravelstein, by Saul Bellow. New York: Viking, 2000. $24.95 ($13.00).

The Human Stain, by Philip Roth. New York: Houghton Mifflin, 2000. $25.00 ($11.20).

Blue Angel, by Francine Prose. New York: Harper Collins. $18.20 ($11.20).

WILLIAM G. TIERNEY, University of Southern California, Los Angeles

Benjamin De Mott once wrote, "No novel of academe has ever produced a believable prof" (1962, p. 245). Times have changed. Within the last few years some of our most celebrated authors have written academic novels and concocted entirely believable professors. We may not like what we see, but Saul Bellow's Ravelstein, Philip Roth's Coleman Silk, and Francine Prose's Ted Swenson, along with an oddball assortment of their colleagues, are painfully believable professors of the late twentieth century.

In his highly regarded, *The College Novel in America,* John Lyons defines the academic novel as "one in which higher education is treated with seriousness and the main characters are students or professors" (1962, p. xvii). Although such a workmanlike definition is useful for setting the parameters of the academic novel, one aspect that the definition does not take into account is the positionality of the reader. Unlike articles in refereed journals that are designed for one's scholarly peers, academic novels have a broad reach—they are meant for the general public. The academic novel may paint a portrait for an uninformed public about what takes place on campus, but most readers who are academics will

William G. Tierney is Wilbur-Kieffer Professor of higher education and director, Center for Higher Education Policy Analysis, Rossier School of Education, University of Southern California, Los Angeles.

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likely take different interpretations from an academic novel Academic novels are helpful for academics not merely for the pleasure one may derive in reading fiction, but also for what the text tells us about ourselves, a good novel can be a mirror to our lives In what follows I am particularly interested in how three prominent novelists have constructed academic identities Bellow's, Roth's, and Prose's books are the most well read academic novels written over the last decade, and they deserve a careful reading They take up the perplexing question what does it mean to be an academic?

In *Ravelstein* (2000), Saul Bellow concocts essentially a two-character play Abe Ravelstein is a brilliant philosophy professor at a prestigious Midwestern university, and the narrator, Chick, is Ravelstein's friend and colleague Ravelstein is a closeted gay man dying of AIDS and he asks Chick to write his memoir As with other novels by Bellow, *Ravelstein* is short on plot and long on character development It is a novel of ideas where we hear the inner workings of two great minds who are two old friends Bellow moves the dialogue effortlessly from Borscht belt comedy routines to philosophical meditations on death and dying that are entirely believable

As the book opens, the reader finds that Ravelstein has penned a polemic about academic life and he has become rich and famous Ravelstein and Chick are at a penthouse hotel in Paris, and Ravelstein is about to buy a $4500 gold Lanvin jacket He no sooner buys the coat then he spills espresso on the lapel We learn to forgive Ravelstein his excesses—stereos with speakers at $10,000 apiece, lavish dinners, silk ties that he airmails to Paris to get cleaned, $20,000 gold watches, Oriental carpets, Lalique chandeliers—because he combines exorbitant spending with an exuberance for life

Chick tells us that Ravelstein also has a unique ability to avoid personal grudges or pretensions Chick reminds Ravelstein at one point that a friend had "almost" gotten Ravelstein the appointment he wanted at the elite Midwestern University where they both work Ravelstein responds "That's true I'm the only one with rank who doesn't have a named chair After all I've done for the university—And the only chair the administration offers me is the electric chair" (p 36) Chick continues by telling the reader, "But Ravelstein was unusually free from such preoccupations and grievances" (p 37) As we traverse the text we tend to believe Chick Ravelstein seems to be an academic character who is larger than life, he is someone toward whom students gravitate He has students over to his house for pizza parties, and they intermix dialogue about one or another philosopher while watching Michael Jordan and the Chicago Bulls At the same time, he never has any problem flunking out students who he does not think are excellent, he also works mostly with men.

The reader hears how two old academics speak to one another on any number of topics, and in particular, how they view the state of the academy and society. Although Ravelstein is thought of as a conservative philosopher, Chick relates how he is able to converse with blacks on the streets who stop him and admire his clothes. "These young dudes are lovers of high fashion. . . . They're extremely savvy about automobiles, too, comments Ravelstein" (p. 47). Ravelstein marvels at "how well-spoken [blacks are] on TV" (p. 56), and Chick relates that Ravelstein has an excellent relationship with his black maid. "As nearly as any honky could, he took into account her problems with her prostitute daughter, her jailed criminal son, and with the other son whose HIV troubles and scrambled wives and children were too complicated to describe" (p. 92).

Only once does Chick have Ravelstein explode, and that is when he is near death and his room is full of friends, a black nurse walks in and says that it is time for him to take his AZT. Everyone hears her. The next day Ravelstein tells Chick he could have killed the woman when she blurted out what he thought was a secret—that he had AIDS. When his lover, Nikki, tries to forgive the woman by saying she is from the "ghetto"—what could one expect—Ravelstein explodes again. He explains how ghetto Jews were highly civilized, but not black people. "It's not a ghetto that they come from, it's a noisy, pointless, nihilistic turmoil" (p. 142).

Throughout the book the reader gets the sense that the two men are physically and philosophically trying to make their way through the barbaric swamps of the late twentieth century. Ravelstein lives in an apartment building appropriately named "The Alhambra." His life is a castle with a moat around it where detritus and decay surround him. His conservative attack on the academy has been to point out the moral quagmire in which the academic community now dwells. As Chick notes, all or most of the students of his generation had read Plato's *Symposium* (p. 24), whereas today's students know nothing and learn nothing even though an average BA costs $150,000. "Parents might as well flush these dollars down the toilet, Ravelstein believed" (p. 47).

Ravelstein also cautions Chick about his friendship with the mysterious Professor Grielescu. Grielescu, Ravelstein has heard, is connected with the Fascist Iron Guard of the prewar Romanian government. He had been a Foreign Service official in the Nazi regime. "As a Romanian nationalist back in the thirties he was violent toward the Jews" Ravelstein explains to Chick (p. 125). The discussion continually returns to Grielescu and how Chick should stop befriending him, it is immoral, explains Ravelstein, to befriend such a man.

If Ravelstein is outspoken, and Chick eggs him on to speak out about the cultural decline of the academy, one hidden aspect of Ravelstein's life is with regard to his homosexuality, or what he prefers to call his "inversion" Ravelstein's lover, Nikki, appears in the text, but only as an "Oriental" lover who usually sleeps late after a night of watching Kung Fu movies At one point Ravelstein is feted by members of the Reagan and Bush administrations for his ideas, there is no mention of whether he feels excluded, odd, or second-class by not being able to bring Nikki to events where he "spent a fortune on formal attire, cummerbund, diamond studs, patent leather shoes" (15)

Chick is equally uncomfortable discussing Ravelstein's sexuality When Chick's wife accuses him of having an affair with Ravelstein, Chick guffaws and says he wouldn't even know what to do He accepts that Ravelstein "[is] doomed to die because of his irregular sexual ways" (p 160) and that he is "destroyed by his reckless sex habits" (p 189) Nevertheless, they remained best friends

Much has been made of the fact that the novel is a thinly veiled paean by Saul Bellow to his best friend, Allan Bloom, who wrote *The Closing of the American Mind* (1987) and taught at the University of Chicago until his death from AIDS One surely does not need such background information to enjoy the strength of Bellow's narrative or to learn about the complexity of academic identities, nonetheless the information helps

Bloom was not merely a cultural conservative but in the vanguard of the intellectual revolution in the Reagan era His book deplored what had taken place in the 1960s, and in one dyspeptic passage after another he railed against the sexual adventurism of Margaret Mead, the hedonistic music of Woodstock, the black power movement, and the nihilism that had overtaken every classroom in America In some respects, the "real" information about Professor Ravelstein adds to the texture of the text rather than detracts from it Here, then, we have a novel that is enhanced by reality

We also learn from Chick that Ravelstein "seldom had a full night's sleep Class preparation often kept him up To lead his Oklahoma, Texas, or Oregon students through a Platonic dialogue, you needed exceptional skills as well as esoteric dialogue" (p 54) One wonders if Oklahoma students are dumber than those from New Mexico If Ravelstein has such a difficult time with students at the University of Chicago, what would he have done if he taught at Chicago State? Or perhaps learning is impossible at all but the most elite of institutions?

An academic reader comes away from this text with a maddening sense of contradictions—and in an odd way that is the pleasure of the text Chick writes of Ravelstein as if he understands African Americans, but the language used about black people is objectifying and patronizing. Ravelstein and, by inference, Chick marvel when black people are well spoken on TV; he is surprised when they know high-fashion; the troubles that befall Ravelstein's maid are thought of as commonplace among black people—what could one expect, after all, from the "nihilistic turmoil" from which they came.

Similarly, Ravelstein cautions Chick about a friend who may have committed crimes thirty years before, but not a word is mentioned about the silence of a government in the early 1980s that studiously ignored the AIDS epidemic. Indeed, throughout the book there is an unending paradox of how someone can condemn individuals on the one hand, and yet on the other, be dying in part because of inactivity of other individuals. Chick states that Ravelstein does not hold grudges, but his famous book is one long grudge against those who had starring roles in the 1960s.

How is it possible that such an intelligent narrator as Chick might assume that all students of his generation read Plato—or that college tuition costs $150,000? Doesn't a contradiction exist between portraying a man as sympathetic to his students yet also willing to fail them without regard? Is it not odd that one can speak of the importance of the humanities but work almost exclusively with white men?

Chick states that Ravelstein "despised campy homosexuality," and yet he paraded about in gold Lanvin jackets, silk cravats, and diamond cuff links. The man was an academic Liberace ensconced in a drawing room complete with Oriental rugs, crystal chandeliers, and young men. How is it possible that someone can know intellectual matters so well, but not understand himself? Such a question is the focus of the novel, although Bellow may not have meant it to be.

Ultimately, good academic novels revolve around the importance of words and language, their meaning, interpretation, and reinterpretation. The reader becomes equally involved with the determination of the text, and presumably other academics might read this book on multiple levels as I have done. The text succeeds because of the elegance of Bellow's writing and the contradictions that exist between what Ravelstein and Bellow believe and the way the academic reader sees the academy.

Ravelstein and Chick speak frankly and closely to one another. There is a bond between them and they do not mince their words; one hears how they view race in America. The narrator assumes he is praising Ravelstein's ability to speak with the downtrodden black masses, but I read it as racism. Ravelstein condemns Grielescu, and when Chick admits that he finds Grielescu funny, he notes, "to Ravelstein this was a cop-out. . . . To say he was amusing was to give him a pass" (p. 202). Chick thus points out the moral fortitude of Ravelstein, but at the same time Chick finds his friend's sexual orientation disgusting. How does Chick reconcile that a moral man partakes of what he sees as immoral activities? And for myself, I am mystified that a self-proclaimed moral man might die of a disease yet never once utter even the slightest disappointment at today's Grielescus.

And finally, it bears noting that Bellow does not do well with his presentation of women. An ex-wife of Chick's is a stick figure who is vindictive and petty; his current wife, whom he clearly loves, comes across as flat and obsequious. She was one of the few female students of Ravelstein's, but we hear little from her and know next to nothing of her view of Ravelstein. Toward the book's end Chick ends up ill and his wife saves his life, but one never gets a sense of who Rosamund is other than an extra in the drama that is Ravelstein's and Chick's lives. Thus, women too, are relegated to their traditional roles in this drama—as observers of life, rather than as participants.

Ultimately, we conclude the novel where it began: trying to unravel Ravelstein. We hear two brilliant academics speak on multiple levels and act in contradictory ways. The book is a contemplation on what it means to be human and how academics manage their multiple identities. As with any text, the author may not have intended such a reading, but as noted at the outset, different audiences will have different interpretations.

Philip Roth's *The Human Stain* (2000) is also a text where language is key and the academic characters exist on multiple levels. Whereas Ravelstein has his Chick, Coleman Silk, the hero of *The Human Stain,* has his Nathan Zuckerman. If Bellow is Chick, then any reader of Roth's previous oeuvre knows that Roth is Zuckerman. If Ravelstein is Bloom, then many assume that Silk is loosely based on Anatole Broyard. Unlike Ravelstein who asks his good friend to write a memoir not as an angry lament but as a remembrance of a life lived, Coleman Silk asks a neighbor whom he casually knows to write his biography to set the record straight.

Coleman Silk, a Jew, has taught Classics at Athena College for most of his professional life. He also has become a long-serving and well-respected Dean of the College. When he returns to teaching he makes the mistake one day of asking his class about two missing students by inquiring, "Does anyone know these people? Do they exist or are they spooks?" (p. 6). The two students happen to be black. They lodge a protest. After some initial contretemps with his department chair, Delphine Roux, Coleman resigns in protest.

Just as Ravelstein's name is filled with symbolic significance, so is Coleman Silk's, for he is not who he is thought to be. Coal-man Silk is not Jewish and he is not white. He is a light-skinned black man who has spent his entire life enacting a charade to avoid discrimination. His wife does not know he is black, and he becomes estranged from his family once they discover that he is trying—successfully—to pass as a white man. Coleman's discussion with his mother about his decision to pass as a white man and the implications of his actions is an excruciating passage. She realizes she has not only lost her son, but her grandchildren. "You tell me the only way I can ever touch my grandchildren is for you to hire me to come over as Mrs. Brown to baby-sit and put them to bed, I'll do it," says Mrs. Silk. "Tell me to come over as Mrs. Brown to clean your house, I'll do that." Roth seems to be asking, "What is the price an individual will pay to succeed in society?" What Roth does not ask is what price society demands from an individual in order for him or her to succeed.

Roth's "stain" is, again, all too human. Once Silk resigns from Athena, at the age of seventy-one, he begins to have an affair with a woman who is an illiterate janitor at the college and half his age. One man or another has victimized Faunia Farley since childhood, but she and Silk seem to, if not enjoy one another's company, at least need one another. Shortly after the affair begins Silk receives an anonymous letter that says, "Everyone knows you're sexually exploiting an abused, illiterate woman half your age" (p. 38). The emphasis is on "everyone knows" and, of course, as the story progresses we discover that no one knows Silk is a confederate who successfully passed.

As with *Ravelstein,* Zuckerman tells the story looking backwards. Silk has died and Zuckerman is his elegist. What killed Silk? The irony, of course, is that if academe did not kill him, then it was at least a willing accomplice. Roth paints the American campus as a hypocritical contradiction: it is an entity that is supposed to be a bastion of free speech, academic freedom, and civility, and yet Silk is neither able to say who he is nor utter a synonym for "ghost" that is misinterpreted as an epithet for who he really is.

The personification of this illness comes by way of the young woman whom Silk hired and who ends up as his department chair, Delphine Roux. In one remarkable sentence Zuckerman describes her thus:

> By 1995, the year that Coleman had stepped down from the deanship to return to teaching, the lure of petitely pretty Delphine's all-encompassing chic, with gaminish intimations of a subterranean sensuality, along with the blandishments of her Ecole Normale sophistication had appeared to him to have won over just about every wooable fool professor and, not yet out of her twenties—but with an eye perhaps on the deanship that had once been Coleman's—she succeeded to the chair of the smallish department that some dozen years earlier had absorbed, along with the other language departments, the old Classics Department in which Coleman had begun as an instructor. (p. 190)

Coleman does not like her, Zuckerman does not like her, and certainly neither Chick nor Ravelstein would like her either She is everything that Ravelstein rails against, she uses current theoretical jargon, employs a feminist perspective, coddles students, and assumes that new pedagogies need to be employed in the classroom Roux is not only the person who confronts Silk about his allegedly racist remark in the classroom, but she also has penned the anonymous note that "everyone knows"

Whereas Bellow's women have merely walk-on roles in his two-character play, Roth's women, particularly Delphine Roux, have a central role, albeit they are not heard from very much Perhaps the least convincing aspect of *The Human Stain* is the caricature Roth has drawn of Roux as a card-carrying feminist True, there must be someone, somewhere, who has written an anonymous note to one's colleague about an alleged sexual peccadillo, but Roth tries to paint Roux as a feminist everywoman, and virtually anyone, except the Ravelstein's of this world, who has walked on today's campuses will find the portrait unconvincing

Again, as with Bellow, because Roth is such a brilliant writer the reader knows how much words and interpretations matter Silk is a Professor of Classics at Athena College, small wonder that a woman who argues that there are multiple interpretations to texts will be viewed as the villain—she is not only killing Coleman Silk by her attacks on his classroom discourse and her anonymous notes, she is also killing the academy

The irony is on Roth Even though he creates a stereotype that is hardly believable in Delphine Roux, the true nature of the academy is shown by the lie that Coleman Silk has had to live Would a Black Coleman Silk have ever been hired to teach Classics at Athena College in the 1950s? Would he have ever risen to be the College dean? What Roth seems incapable of handling is the inherent contradiction between the pathos he creates for the man, Coleman Silk, who had to partake of remarkable intellectually gymnastic abilities simply to survive, and the academic Coleman Silk who is portrayed as the protector of the academy from the Visigoths, embodied by Delphine Roux

Roth's blandishment that today's campus is an intellectual prison rings less true for those who work in these prisons We all have individual prisons, to be sure, and the strongest part of the book is the retelling of Coleman's life where we see how he feels he needs to bury himself deeper and deeper within his own jail But a more thoughtful analysis is not forthcoming about the nature of the academy other than easy analyses about what some perceive to take place on today's campuses As I learned to care for Silk the more I learned about him, the less I believed the silly portrait Roth had created of academe

Unlike the qualitative researcher who is supposed to walk the straight and narrow path of the non-generalization of one's findings, the novelist has different concerns Coleman Silk is surely not everyman, his circumstances are so unique that few will be able to say that they walked in his shoes But a skilled writer such as Roth succeeds when he enables the reader to reflect on his or her own life by way of the experiences of a character such as Silk The writer fails when he develops an easy burlesque and tries to pass that off as reality Here, then, academic identity intertwines with today's great challenges how to reconcile race, class, and gender in the early twenty-first century The playing out of this drama occurs on a college campus that is unfortunately a cartoon of academe Nevertheless, the strength of the portrait of Coleman Silk enables us to reflect on the compromises and contradictions we live as academics

Francine Prose is not so well known as Bellow or Roth, but she will be *Blue Angel* (2000) is her eleventh novel, and in many respects it is a companion piece to *The Human Stain* Rather than invent a narrator who tells the protagonist's story, we learn about Ted Swenson through an ongoing internal dialogue he has with himself Instead of being a respected classics professor at an elite private college, Swenson has been a creative writing teacher at mediocre Euston College in rural Vermont for twenty years We meet Abe Ravelstein as he has become a literary success, Ted Swenson wrote two good novels a long time ago, but he has been unable to finish his third novel Whereas *Ravelstein* is without a plot, and *The Human Stain* looks backwards at the events that have happened, in *Blue Angel* the events unfold Although Bellow and Roth have funny moments in their books, neither is a funny novel Bellow's is an angry elegy for a dead friend, Roth's is a cranky lamentation for someone symbolically killed Prose's novel is an example of satire at its best She develops caricatures, but the reader surmises that the author knows they are stereotypes and encourages us to accept the actions that happen in order to understand the underlying themes, rather than assume that the events are reality

The critical word in *Blue Angel* is not "spook" but "yum" As the novel begins the college is on a sexual harassment alert because of the events that have transpired at a neighboring college, which also is the college where Swenson's estranged daughter is enrolled A professor showed his art history class a slide of a classical Greek sculpture of a female nude and said "yum" The female students in the class protested, and the professor was placed on probation As a classic example of foreshadowing, the reader knows that somehow Ted Swenson is going to get in trouble for sexual harassment

Unlike the intellectual contradictions with Ravelstein or the human complexity of Silk, Ted Swenson appears like an entirely understandable, and even likeable, fellow. He is in love with his wife, Sherrie, and he has never cheated on her either with student, colleague, or friend. He is respectably middle-class. He actually enjoys having dinner in the kitchen with Sherrie where a splurge is to share a bottle of wine and have chicken with fresh fennel from the garden. He celebrates when the worn-out Honda Civic only costs two hundred dollars to get fixed, and he luxuriates by occasionally sleeping late.

He also has typical male anxieties. After waking up late one morning he reacts in fear because Sherrie is not there. She's left him! He rushes to the kitchen to find a note from Sherrie saying that he looked tired and she let him sleep. "Arlene gave me a ride. Much love, S." "Poor Sherrie!" he thinks. "Married to a lunatic convinced she'd abandoned him when she was only trying to let him get some shut-eye. Sherrie loves him. She signed her note. Much love."

The strength of this book is the constant internal monologues Swenson has with himself over such seemingly trivial matters as how his wife signs a note. Prose follows in the well-worn footsteps of John Updike, and no one captures interior dialogue better. She is an astute ethnographic observer of everyday life and has the talent to turn those observations into an immensely readable narrative. The reader learns about the perfectly normal life that Ted Swenson leads, and by his typicality, we also come to like him.

Some of the best scenes in the book are his struggles to get through his class, and get through to his class. The current students in his creative writing seminar seem to have a propensity for writing short stories about humans having sex with animals, dead and alive. He has read so many short stories over the years that in class he occasionally forgets which story he has read last and who one or another student is. At the same time, he tries to work with his students in a quiet way so that they learn something about writing. He usually fails.

Enter Angela Argo, "a skinny, pale redhead with neon-orange and lime-green streaks in her hair and a delicate, sharp-featured face pierced in a half-dozen places. She wears "a black leather motorcycle jacket and an arsenal of chains, dog collars, and bracelets" (p. 8). During the first few weeks of class she says nothing, and Swenson grows worried. He is not worried for her, but that she might be disruptive. "Her presence is a lit firecracker sparking in their midst" (p. 9). When Angela finally speaks she makes precisely the point that Swenson wanted the class to hear. Angela is writing a novel, and it is actually good; as he reads it he realizes that she is the most talented student writer he has ever taught.

Swenson begins to convince himself that he is in love with her. As unlikely a partner as she might be, he falls for her because she knows how to write. She has something that he has lost, and metaphorically, that loss is not simply his writing ability but his youth. Step by step we see Swenson drive himself down a road and we know where it will end. Angela appears to be the one taking Swenson down that road, rather than vice versa; she wants Swenson to get her novel published and she knows how to attract him, but Prose also has us recognize that he is an adult, albeit a deluded one. When she asks him to drive her to Computer City to get a new computer he agrees, but he also knows where events are leading:

> Swenson hardly sleeps all night. Shouldn't he wake Sherrie and discuss his plans for the day? Couldn't he have brought it up earlier, at any point during the evening? Why didn't he feel like mentioning it? What does that imply? Is it wrong to drive a student to Computer City without telling your spouse? Or to spend all night twisting in your bed because you're getting to spend a morning with some sophomore in Beginning Fiction? Swenson moans with shame. What if he wakes Sherrie and has to explain that moan? He'll say he just remembered some department business. He never lies to Sherrie. Here's where the betrayal begins. (p. 154)

As with Bellow and Roth, what makes Prose's book in part successful is that kind of writing. She has captured the internal back and forth that academics have as they try to deal with one or another moral dilemma that is either real or imagined. The reader comes to care for Swenson, who loves his wife, daughter, and students. He seems like a nice fellow who is simply struggling to get through the day. As events unfold, we find ourselves saying, "Don't do it. Get out of there. Go back."

But Swenson doesn't listen. He ends up helping Angela install the recently acquired computer in her dorm room and they have a single, failed attempt at sex when his molar inconveniently explodes and he ends up in excruciating pain. It is all downhill from there. He tries to get her novel published, but fails. She tells him she only led him on so he would get the book published, and she then exposes him. He loses Sherrie, his daughter won't speak to him, and a wonderfully portrayed absurdist college committee calls witnesses and is about to strip him of his tenure.

Blue Angel is a novel of comic despair, where we learn how much the academic doesn't understand about himself. The analogy to Nabokov's *Lolita* has been made, but Angela is her own woman. She knows what she is doing and is in control of her life. Unlike Delphine Roux, whom one tends to believe is Roth's take on all of academe, Angela speaks for no one other than herself. The success of the book is that pathos is mixed with comedy, for we have learned to like Ted and to rue his downfall, even if he does do—or tries to do—what he should not.

Helen Garner has written:

> The erotic will always dance between people who teach and learn, and our

> attempts to manage its shocking charge are often flat-footed, literal, destructive, rigid with fear and the need to control. For good or ill, Eros is always two steps ahead of us, exploding the constraints of dogma, turning back on us our carefully worked out *positions* and *lines*, showing us that the world is richer and scarier and more fluid and many-fold than we dare to think. (1998, p. 161)

Ted's *position* has indeed exploded. After he leaves the pretentious academic trial he walks out onto Euston's snowy quad and a doe stares at him. He sees the deer "as a sign of hope, of possibility and forgiveness" (p. 313). One senses that Swenson has learned a bit about himself. His struggle has been to confront the danger zone of the erotics of teaching and to see a student as a real person. Unlike the current onslaught of Grande Bouffe comedies where academic Lotharios get their comeuppance but have learned nothing, Swenson has learned from his experiences. He has learned how much he loves Sherrie, and he has learned, as the final lines tell us, "what a relief it is to admit, even just for one moment, how much he will never know" (p. 314).

Blue Angel comes full circle and returns us to wondering what it means to be human and academic. Saul Bellow etches the contradictions of academic identities on a literary landscape. Philip Roth sears those identities into the consciousness of who Coleman Silk actually is, and what academe actually is. Francine Prose responds in kind by pointing out what a college campus colludes in doing and suggests that at our base, the human condition, whether academic or not, is filled with life's daily trivialities, the struggle to make sense of our lives, and if we are lucky, the realization that we will never truly know.

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A Sanctuary of Their Own Intellectual Refugees in the Academy,
by Raphael Sassower Lanham, MD Rowman & Littlefield, 2000.
111 pp $70 00 ($22 95)

JAMES L BESS, Amherst, Massachusetts

In his new book, philosopher Raphael Sassower addresses some of the most fundamental questions of human existence in general and of organizational life in particular He asks, what is the optimum balance between autonomy and external control, both for individuals and for organizations (in this case, for faculty and for their institutions)? Though the meaning of "optimum" is somewhat ambiguous, he appears to construe it as "productive" and "satisfied" for individuals and "effective" in the long run for institutions Optimum, in addition, means "moral" Resolution of the issues, says philosopher Sassower, is undergirded by epistemological assumptions and organizational behavior presuppositions He speaks primarily to the social psychology of the unit/environment interaction—between individuals and their organizations and organizations and their surround

The framework for his discussion, though not explicitly stated by Sassower, is that all human "systems" (individual, group, or organization) have relatively open boundaries (except, perhaps, for certain paranoid schizophrenic individuals and for utopian societies) Hence, as Parsons (1951)—but not Sassower—notes, they must attend to cross-boundary problems of securing resources from the outside, distributing them efficiently inside, establishing salient, achievable goals, and integrating different parts of the system so they are coordinated in their efforts Inasmuch as most individuals (as systems themselves) work in the context of organizational systems, for each to be effective there must be a symbiotic connection between them These intersystem objectives and relationships, again, faculty-institution and institution-environment, are the substance of the book

For Sassower, the balance between autonomy and external control in individual and institutional systems of higher education has shifted much too far to the outside The result has been a movement away from

James L Bess is a senior partner of James L Bess & Associates, Consultants to Colleges and Universities, Amherst, MA

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individual autonomy and toward external control—e g , by various publics and institutional managers Moreover, the moral quality of these controlling external agents has, in Sassower's eyes, so deteriorated that they have compromised the ethical integrity of both institutions and individuals in higher education In the book Sassower proposes remedies for this unhappy state of academic life

The remedies, of course, are keyed to Sassower's judgments about the causes Primary, according to the author, is the confusion among faculty as to what the university (by which he means to include all kinds of higher educational institutions) role in society should be and about how faculty should balance their teaching and research role obligations The role ambiguity in turn stems from the principal reliance of academics on modernist, rationalist perspectives and not enough on qualitative, personal narratives Sassower notes "The voice of reason could bar potential actions and could confine us all to the cradle of rationality from which we exit only feet first When there are exceptions, when individual academics do defy the rules of their games, they are in too small a minority, marginalized and patronized" (p 13) Although various alternatives to traditional epistemological assumptions about higher education have arisen of late, Sassower suggests that these are not yet salient for most faculty Consider, says the author, "poststructualism, deconstruction, and postmodernism, not to mention the various feminisms that permeate contemporary critiques" (p 17)

Sassower's radical solution is to create societally subsidized, organizational "sanctuaries," where faculty may do as they wish, literally wasting time and assets if and when they deem it necessary, and "madly" [sic] pursuing their whimsical fancies and fantasies in the hope that they will find satisfaction for themselves and, not incidentally, contribute to a more humane society Coincident with this "crazy" [sic] effort, faculty must commit themselves (presumably non-rationally) to addressing moral issues that arise out of such horrendous events as Auschwitz and Hiroshima Says Sassower

> I suggest that a discussion of the transformation of science and technology must be central to a discussion of the academy and its cultural role Intellectuals as cultural critics ought to reconsider the promise of a world peace that is offered by enlightened and humane pluralism, a pluralism that preserves science as relativized critical rationality well within culture And as part of their cultural duty, they should offer ideas and suggestions of how to solve potential problems related to technoscience (p 47)

For too long, Sassower insists, the military-industrial complex has dominated the agenda for higher education, demanding credentialed, skilled, and knowledgeable college graduates who ultimately will perpetuate the mindless production of goods and services This powerful external influence, abetted by pusillanimous university administrators, now acting "as if they were corporate engineers, downsizing and streamlining," has intruded massively on the freedom of faculty to follow the intellectual and moral leads that their creativity might suggest The current work setting, he says,

> is burdensome to the extent of being overpowering, overpowering to the extent of being oppressive, oppressive to the extent that one loses autonomy and a sense of individuality In short, one feels unable to express passion and pain and unable to be left alone as if in a monastery (p 10)

Instead of the current condition, Sassower asserts that faculty should become passionate and responsible in collaboration with students, colleagues, neighbors, and fellow citizens Changing the conditions within the university to accomplish this, he says, will change the external culture as well

Faculty will thrive under conditions of total freedom from control of others, their behavior constrained only by their consciences According to Sassower, faculty need time and space to "lose themselves," to develop personal narratives, thereby to discover a new self in another place They would do this, he says, by being passionate and wild, enthusiastic and infatuated Later in the book (p 91), however, Sassower admits to the necessities for at least some external control but leaves the mechanics vaguely to the role of "norms of conduct and codes of behavior" How these would "control" the newly created free-spirited faculty who are to be role models for the proletariat is not clear More on this below

In order to engender the change in faculty, institutions of higher education should be heavily subsidized as sanctuaries—a "partial and critical separation, an engaged detachment" from the external society In these sanctuaries, intellectual rebels would ferment dissent "from the debilitating effects of power and authority"

The book comprises five chapters, most of which are virtual reprints of or excerpts from previously published articles The chapters are named The Life of the Mind, The Emerging Academic Model, Intellectual Responsibility, Academic Confusions, and Academics as Visionaries and Prophets In point of fact, the titles of the chapters have been changed from the original journal articles, giving the collection somewhat more of a semblance of coherence across chapters than the melange of less related articles themselves Indeed, it is a significant distraction of the book that the different chapters are not more connected

Chapter 4, for example, turns out to be primarily a discussion of medical ethics and the training of physicians—not unrelated to the central themes of the book to be sure, but as presented, a bit of a stretch

One can address current problems (in any field) as unique to our times or as universal inevitable dilemmas of social systems and human relations Sassower chooses the former in this book and explicitly defends his stance on philosophic grounds Sassower's analysis of the problems of higher education and his solutions, however, are deeply troubling Though it is certainly true that creeping "managerialism" (Enteman, 1993, Trow, 1997) has imposed itself disastrously on academics in assorted ways—at first insidiously, but now openly—Sassower's posing poor faculty as scapegoats of external, tyrannical conspiracies is a denial of the culpability of faculty for at least some of their current impotence Furthermore, proposing that faculty get a free ride from the government and general public to do whatever they want is certainly practically unrealistic in the present financial and evaluative climates for higher education Bellah, Masen, Sullivan, Swidler, and Tipton, for instance, suggest that "the impersonal forces of the economic and political worlds are what the individual needs protection against" "One cannot live a rich private life in a state of siege, mistrusting all strangers and turning one's home into an armed camp" But Bellah et al also say that "this quest for purely private fulfillment is illusory it often ends in emptiness instead" (1996, p 163)

Sassower's sanctuary notion, in addition, ignores the evidence from extensive research on productivity in faculty For example, Pelz and Andrews (1976) showed that scientists left alone produced less than their counterparts who were subjected to at least a modicum of control Moreover, there is considerable evidence that strong faculty norms constitute far more stringent controls than those put forth by external agents (Braxton & Bayer, 1999, Cummings, 1981, Homans, 1950) Removing outside threats may relieve some perceptions of undue control, but only if faculty themselves can get their own normative houses in order Sassower's endorsement of extreme autonomy, in the service of self-discovery, however, will result not in a functional "organized anarchy" (Cohen, March, & Olsen, 1972), but a disorganized, entropic, anomic, if not solipsistic, aggregate of individuals without community and hence without norms to guide their behavior

Though Sassower claims to abhor any universalistic judgments, he would, it seems, have us return the university to its medieval role, where a universalistic "truth" could be apprehended through intuition, reason, and discussion by a select wise few, thereafter to be dispensed to the proletariat Indeed, Sassower would establish a two-tier system of colleges and universities, with the first assigned the responsibility for research and the rest relegated to teaching "Within one generation the entire academic world could be split into two major components At one extreme there will be about twenty to thirty research universities At the other extreme there will be about two to three thousand teaching universities and colleges " Sassower argues for cutting costs at these latter institutions by citing the model of the University of Phoenix A prominent scholar might be hired as a figurehead, but other faculty would be untenured drones More, "the cheap labor of graduate and postgraduate students" could be employed in the tasks of teaching, an odd, openly exploitive position that contrasts with the "moral" engagement of faculty with students Sassower advocates elsewhere

Such an elitist model, of course, ignores the contributions of large numbers of faculty at institutions of mid- and even lower-level prestige The history of intellectual breakthroughs reveals the fecundity of such institutions in breeding scholars and teachers and in producing outstanding research and educated students There is also much to be said for the "protection of the inept" (Goode, 1967), who are inevitable and valuable in every social system

A sanctuary model also will fail on other grounds, primarily because of its insularity and the resultant closing of its boundaries to relevant information As Karl Weick notes, there is a tradeoff between cohesion within a group and accurate, more sensitive apprehensions of the cross-boundary conditions The higher the integration, the lower the accuracy of information obtained and the less the efficiency (Weick, 1984) Sassower considered, but rejected the label of "asylum" in his description of the faculty enclave in his model Asylums, he asserts, are places where people go for "protection"—not the motivation he sees for present day faculty Yet, for the remainder of the book, he reiterates the need for faculty to have a safe harbor from the harassment of university and external critics His dream world does, in fact, sound like an asylum, which Erving Goffman describes as a "total institution"—a place where separation from the outside world renders members dispossessed of their former role identities and often delusional and hallucinatory (Goffman, 1961)

Sassower's idyl attributes to faculty an extraordinary wisdom that surpasses even that of our founding fathers

> If my model were to be properly understood by responsible academics and a generous culture that needs its future shielded from poor choices by greedy capitalists, it would take care of all these issues My welfare model of the sanctuary of higher learning would ensure a protection wider than tenure and an open-mindedness the Bill of rights and the U S Constitution could not spell out in enough detail (p 86)

It is difficult not to consider this a rather arrogant, conceited view of faculty abilities

There is no doubt that Sassower, as a respected philosopher of science and culture, has been prompted to propose his vision of a faculty utopia by the real and serious pressures in recent years that have come to oppress colleges and universities and their faculty Sassower writes well, and his thesis is courageous and provocative It is unfortunate that his solution is largely opinion—unsupported by facts, philosophic principles, or practicality The vision is illusionary and escapist Not only will this scheme never be funded and adopted, but if it were, it would surely fail—and should

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Book Reviews

The Department Chair's Role in Developing New Faculty into
Teachers and Scholars, by Estela Mara Bensimon, Kelly Ward,
and Karla Sanders Anker Publishing, 2000 232 pp $25 95 (paper)

MARY DEANE SORCINELLI, University of Massachusetts, Amherst

If studies and reports over the last decade are any indication, attracting, developing, and retaining early career faculty continues to capture the attention of scholars, academic administrators, and faculty development leaders in higher education Many of these studies have suggested that intellectual, social, and resource support from senior faculty, chairs, deans and other campus administrators are critical to the success of new faculty In particular, findings point to the essential role played by the department chair Hence, Bensimon, Ward, and Sanders' examination in this book of the role that chairs play in "repopulating, remaking and repositioning the American academy" is both timely and needed As the book's title suggests, the authors focus on the pivotal role the department chair plays in socializing new faculty members, in assisting them in reaching their greatest productivity Indeed, Bensimon, Kelly, and Sanders take a broad view of new colleagues' initiation into the culture of the department and institution, comprehensively exploring three distinct phases in the development of new faculty

The first area the authors explore is the recruitment and selection process of candidates, including practical advice about the wording of position announcements, interview questions, and letters of appointment They also include guidelines for planning effective campus visits and providing relocation support, suggesting that management of the recruitment process plays a critical, and often overlooked, role in a candidate's integration into her department Bensimon, Ward, and Sanders then target the development of faculty in the first year, emphasizing the role of the chair in helping newcomers become effective teachers and productive scholars They provide persuasive evidence that a range of both formal and informal orientations are an essential ongoing process for providing information and support Finally, in examining the development of faculty beyond the first year, the authors discuss the role of the chair as mentor They recommend a mentoring system, clear advice on the tenure process and evaluations, and the creation of effective—and balanced—commitments to teaching, research, and service to meet the expectations of both departments and institutions

Throughout all the chapters, Bensimon, Ward, and Sanders emphasize the importance of demystifying the process for new faculty from helping a new colleague negotiate a benefits package to understanding the unspoken rules for being awarded tenure, senior faculty possess the information new professors may not want—or know—to request Much of the advice in this book is directed toward helping the new faculty member identify and effectively confront common difficulties faced in the process of socialization into a new institution a lack of adequate teaching preparation, making wise decisions regarding committee work, neglecting research work in favor of more immediate concerns (like teaching), and confusion about the institution's priorities

Offering practical advice, Bensimon, Ward, and Sanders rely on a variety of sources, including interviews with new faculty, hypothetical scenarios to demonstrate the dilemmas faced by new faculty coupled with effective and appropriate responses, and examples from successful campus programs Particularly attractive is the hands-on approach of this book For example, in each chapter, the authors raise critical questions and then provide advice in the form of concrete materials such as samples of position announcements, candidate interview questions, letters of appointment, and annual plans that can be readily adapted to individual contexts Each chapter concludes with a series of checklists, such as "Candidate's Disqualification" (to help manage a high volume of applications), "Topics to Include in Year-Long Orientation Programs," and "What the New Faculty Member Will Need to Know before Arriving on Campus"

While the volume includes a wealth of advice, often in the form of "Do's and Don'ts," it avoids being prescriptive and limiting With an underlying acknowledgment that institutions and departments vary, the authors offer a range of options to address the myriad difficulties in the complicated transition from graduate student to faculty member In doing so, they emphasize the importance of the involvement of *all faculty*, not only the department chair, in this process And they are careful to acknowledge that particular issues relating to women and racial minorities require particular attention

The Department Chair's Role in Developing New Faculty into Teachers and Scholars makes an important contribution to the literature on new faculty development because the extant literature has tended to focus on developing faculty *after* their arrival on campus I found this book particularly informative and useful in documenting how to support newcomers during recruitment and hiring, *before* their arrival on campus Chairs and others working with new faculty will appreciate the pragmatic suggestions for improving departmental practices and policies for organizing a search, negotiating the job offer, and providing information prior to arrival as well as the wealth of ideas for supporting faculty during and beyond the first year

This book both complements and supplements several other useful works from the new faculty development literature, including Boice's *The New Faculty Member* (1992), Sorcinelli and Austin's *Developing New and Junior Faculty* (1992), Tierney and Bensimon's *Promotion and Tenure* (1996), Menges's *Faculty in New Jobs* (1999), and Rice, Sorcinelli, and Austin's *Heeding New Voices* (2000) Taken together, these five books provide an overview of the fundamental issues affecting newcomers to the professoriate, they also provide a wealth of principles of good practice for supporting new and early-career faculty

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Evaluating, Improving, and Judging Faculty Performance in Two-Year Colleges, by Richard I Miller, Charles Finley, and Candace Shedd Vancko Bergin & Garvey, 2000 208 pp $55 00

JON WERGIN, Virginia Commonwealth University

An enduring irony of American higher education is its ineptitude with assessment Systematic reflection is often foreign to the academic culture, even though reflection on what is "true" or "good" is what keeps the culture alive, or ought to One would think that two-year colleges, with their unambiguous missions of teaching and service to their communities, would be more receptive to a culture of assessment, and in a sense they are Unfortunately, assessment in these contexts tends to be bureaucratic and managerial rather than focused on the academic and professional development of the faculty

This book promises to fill the breach by offering ways in which performance evaluation might be used effectively in two-year colleges, which, as the authors note, now serve nearly half of all postsecondary students However, the book's promise is not fulfilled Administrators will not find in this volume a comprehensive resource that will help them tailor professional assessment systems to the mission and values of the two-year college, and scholars looking for an integrative review of research on performance evaluation systems that work best there will not find that either Instead, although it contains numerous examples of policies and instruments used in community colleges, the book is largely a rehash of the more general literature on faculty evaluation and warmed-over recommendations that have been expressed more forcefully and in more helpful detail elsewhere (cf Braskamp & Ory, 1994)

Evaluating, Improving, and Judging Faculty Performance in Two-Year Colleges sets the tone for what is to follow in its first chapter, "Assessing Your Institution's Climate for Evaluation and Development " One would think, judging from its title, that the chapter would review the evidence on what constitutes a healthy climate for evaluation and development in two-year colleges and then extend these findings to a set of guidelines for effective evaluation practice Instead, what we get are some "common elements that impact upon (*sic*) evaluation and development," a brief description of the Total Quality movement, a two-page section entitled "The Evaluation Process," which inexplicably focuses entirely on research on post-tenure review, and finally a section, called "Developing a Proactive Evaluation Climate," containing mostly admonitions about how evaluation should focus on improving performance, how it should be linked to institutional mission and values, how it should be regular and systematic, and so on, all common-sense principles that any administrator worth her salt should know already

The precedent set in the first chapter continues in the second chapter, "Focus on Teaching " After some useful stage setting in which the authors describe the special challenges facing teachers in two-year colleges and propose another list of obvious principles (base evaluation on articulated values, they say, and make it purposeful, manageable, and fair), they proceed to report two surveys of evaluation practice in community colleges but make no connection between current and recommended practice Inexplicably, they end their "Focus on Teaching " chapter with a section titled, "Evaluating Faculty Scholarship "

It is not until Chapter 4, "Faculty Evaluation Systems," that the reader encounters truly practical advice The authors provide a short and useful summary of research on the validity and reliability of student ratings of instruction and give some generally sound advice for their design and use, including a suggested rating form The authors do not mention the necessity of tailoring evaluation questions to course purposes and learning objectives, however, which is an egregious omission in my view The authors also focus at some length on recommended procedures for classroom visitations by chairs, one of the least reliable forms of assessment, due to its potential for sampling error and the "contrast effect" (using one's own strengths as the standard for judging the performance of others) At the same time they almost totally ignore the teaching portfolio as a key source of data for both summative assessment and professional improvement Given the huge amount of interest and work done with portfolios on hundreds of campuses (including community colleges), one wonders how this could have escaped the authors' notice To their credit, the authors do discuss the importance of negotiating annual work plans with faculty and emphasize the importance of evaluating faculty members using individualized criteria

Perhaps most aggravating about this book is the poor quality of its editing Points are made, then dropped without elaboration Even though the text is short, at only 127 pages plus appendices, some of these same points are repeated over and over again For example, most chapters contain sets of principles for good evaluation practice, and the list of principles under "Developing a Proactive Evaluation Climate" is almost the same as those under "Faculty Evaluation Overview," "Characteristics of Effective Promotion and Appointment Decisions," and even "Needs for the Future " It would have been far more effective if the authors had written a single chapter on principles undergirding effective evaluation practice, spent some time showing how to translate these into evaluation policy, and then focused the remaining chapters on how to implement those policies most fairly and effectively in two-year colleges

All in all, *Evaluating, Improving, and Judging Faculty Performance in Two-Year Colleges* is more disappointing than useless The authors' advice is generally sound, and the appendix contains useful examples of forms and procedures But the choppiness of its presentation and its neglect of such important resources as teaching portfolios make it useful only as an adjunct reference, at best

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Teaching Working Class, edited by Sherry Lee Linkon Amherst
University of Massachusetts Press, 1999 320 pp $60 00

ANNE-MARIE NUÑEZ, University of California, Los Angeles

Given current demographic trends and increasing consideration in the college admissions process of students' socioeconomic status as a mechanism to preserve diversity, students from working-class backgrounds will likely continue to grow in numbers and importance in American higher education Yet some scholars think that these students' perspectives, as well as academic work related to class themes, have been overlooked in higher education In the opinion of one advocate of class studies, Constance Coiner, "Despite its place in the now familiar list—race, gender, class, ethnicity, and disability—class is often the least addressed of these issues" (as cited in Esposito, 1999)

To speak to this concern, professors Sherry Lee Linkon and John Russo founded the Center for Working Class Studies at Youngstown State University in Youngstown, Ohio, in 1996 This center is the only known institute primarily dedicated to working-class studies in the United States Drawing from her work in the center, Linkon has edited a collection of 18 essays about working-class students and curricula, compiled in *Teaching Working Class* Authors include scholars and teachers in a variety of disciplines—composition, English, history, labor studies, literature, film, and communication By having authors from various fields contribute to the book, Linkon aims to illustrate the importance and possibility of addressing working-class themes in many fields of study

Anthologies such as *Strangers in Paradise* (Ryan & Sackrey, 1984) and *Working Class Women in the Academy Laborers in the Knowledge Factory* (Tokarczyk & Fay, 1993) primarily address how working-class academics experience and negotiate the environment of higher education *Teaching Working Class* brings together essays that discuss how working-class students in higher education are taught and how class themes can be raised in the classroom The book is divided into two distinct sections "working-class students" and "working-class studies" While there is considerable overlap between these two themes, the first 8 essays emphasize working-class students' experiences in the classroom and the importance of raising class issues as a way to engage students in learning The final 10 essays focus on the incorporation of working-class topics into higher education curricula Authors represent a wide range of institutions, including community colleges, universities, and urban and rural schools located in different regions and serving student bodies that vary greatly in selectivity and diversity

A central motivation for compiling this anthology is that "the more we can recognize and understand working-class culture, the more clearly we can recognize the strengths of our working-class students and, more important, the better our chances of engaging and inspiring them" (p 6) Linkon and many of the authors are strongly influenced by Brazilian educator Paulo Freire's perspective that education can help to transform students' outlook and sense of political agency, that education can draw from students' lived experiences as a departure point for the learning process, and that there are particular approaches teachers can use to encourage their students to develop critical thinking and social action tools (1993) Following Freire's approach, most of the authors employ an interactive pedagogy that encourages students to relate their own experiences to those of the texts being discussed in class

One recurrent theme in the essays of the English and composition teachers is the importance of encouraging working-class students to learn academic modes of expression without having to ignore the modes of communication they entered college using Some of the authors feel that working-class students are implicitly sent the message that, in order to succeed in college, they must wholeheartedly discard their language and substitute it with the academic mode of expression For these students, the ensuing process of learning academic expression can result in confusion and personal disillusionment Adler-Krassner suggests that the lack of clarity she finds in working-class students' writing may reflect a struggle for them to express themselves in forms that do not value or reflect their experience Adler-Krassner, Brooks, and Heathcott recommend encouraging working-class students to view academic discourse as only one tool of many they might employ and perhaps combine with other forms of communication, rather than as a given language they must uniformly adopt

In their essays, Ann Green, Joanna Brooks, and Joseph Heathcott suggest strategies for encouraging students to bring their experiences into the classroom Green finds that having students identify their own cultural backgrounds in terms of class, race, and gender prepares them to view their experiences within a larger cultural context and to move beyond a tendency to relate only to textual characters or themes similar to their own Brooks assigns students to write about how their families might define or employ the literary terms they study in their UCLA English class as a way to consider their cultural background and relate it to the texts being studied, and to become more conscious of how they use literary tools of analysis Likewise, Heathcott encourages students to share their own and their families' ways of communicating as a way to relate their own experiences to the texts they study, and to distinguish these communication styles from the academic one

Assigning students to reflect on their own positions in society and relate their perspectives to their studies differs markedly from the "banking" model critiqued by Paulo Freire, in which teachers transmit to students knowledge that goes unquestioned or unchallenged In their essays, Ferretti and Christopher write that some of their working-class students are accustomed to the banking model and therefore initially unresponsive to assignments or discussions in which they are asked to reflect on their own experiences or to think critically about the texts they read Whereas authors like Green, Brooks and Heathcott assign their students personal writing early on in their courses, Hyman and Hapke each write that, for their working-class students, assigning particular fictional or (in Hapke's case) historical texts about working-class experiences before assigning them to write on their own personal experience better prepares them to do more personal writing. In two other unusual examples, authors discuss their successes using local, historically informed texts as tools to stimulate discussion and reflection about class issues. Bruno and Jordan have developed a multimedia drama, in which they and their union member students re-enact a fictional strike based on worker testimonials from actual strikes. Belanger, Strom, and Russo, teaching a special set of courses at a union hall in Youngstown, Ohio, find that assigning students to read and write about participants in a local labor strike that took place in 1937 is a useful vehicle for teaching critical thinking, research, and writing skills.

Pari and Aronson each write about their efforts to encourage their working-class students to reconsider dominant cultural stories. Pari seeks to problematize the "melting pot" stereotype, and Aronson tries to help students deconstruct the myth of upward mobility. Johanningsmeier finds that assigning immigration literature written earlier this century by members from different white ethnic groups provides a historical context for white working-class students to understand current racial-ethnic groups' struggles to participate fully in society and also to learn about the variety of white immigrants' experiences. Streamas calls on teachers to deconstruct the "model minority" stereotype of Asian Americans by bringing in guest speakers or assigning texts that highlight the wide variation among Asian American immigrants' experiences.

Encouraging students to consider how class relates to race, gender, and other issues, such as nationality, is a central issue addressed in some of the essays. Esposito suggests a variety of particular texts (including books, films, and music) that can be used to foster discussion about class and how it relates to themes of race and gender. Zaniello recommends specific films to encourage students to consider the international and national dimensions of class. In their description of their experience teaching a Multicultural Women Writers course, Easton and Lutzenberger write that they worked hard with the main teacher, working-class studies pioneer Constance Coiner, to encourage dialogue that focused on class, yet their diverse students often resisted talking about class. Lutzenberger felt that because the course did not make explicit its emphasis on class and how it relates to race, students believed that the course overlooked the importance of race and ethnicity in the literary texts and in personal experience. The authors conclude that outlining more explicit course objectives and highlighting the importance of other critical categories as they intersect with class might have encouraged students to discuss class identity as a distinct but related entity to race and gender and to feel that their own perspectives were also being valued.

An interesting research question that emerges from reading the essays is whether and how class shapes students' educational experiences in distinct ways from other forms of difference such as race or gender. Alternatively, how are effective strategies for engaging students from working-class backgrounds similar to or different from those addressing other minority students?

Teaching Working Class is not oriented toward a research audience, but primarily toward practitioners. Readers looking for a theoretical framework of "working-class" and how it relates to characteristics such as race and gender, or for an analysis of how class plays out differently in a variety of institutional contexts, will not find it here. Given the descriptive or narrative approach of the authors, this anthology will probably be most useful to scholars interested in specific examples of how class can be related to pedagogy and to college teachers who want to learn from other teachers' experiences teaching working-class students and/or raising class themes

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Advice for New Faculty Members Nihil Nimus, by Robert Boice
Needham Heights, MA Allyn & Bacon, 2000 319 pp $28 00 (paper)

JOHN A CENTRA, Syracuse University

Although Robert Boice's 1992 book, *The New Faculty Member,* was written for faculty development professionals, it proved to be of interest to novice professors as well Because of this, and because of the spate of research on the new faculty member during the past decade, Boice decided to write a practical guide directed at the new faculty member The information included in *Advice for the New Faculty Member Nihil Nimus* has been the basis for the many workshops and seminars given by Boice during his years in faculty development Will readers benefit from the book as much as if they had attended Boice's workshops on teaching or writing? Probably not, but discerning new faculty members could learn enough to increase their chances of winning tenure and promotion Why discerning? Because some of the principles and advice proposed by Boice seem vague and unhelpful, others are clearly useful and on target

The book includes three sections In the first, "Moderate Work at Teaching," Boice discusses "proven ways of easing the surprisingly hard work of teaching " It includes eight rules or principles, many of which are similar to the rules in Section 2 of the book, "Write in Mindful Ways " Section 3, "Socialize and Serve with Compassion," discusses not only the typical service activities of faculty members, but also the importance (according to Boice) of socializing and getting along with colleagues

Throughout the book, the theme of nihil nimus (i e , nothing in excess) is discussed and applied, Boice further defines nihil nimus as "looking for simple, effective strategies that allow new faculty to work efficiently amid a seeming overload of demands for their time and energy" He also refers to this theme as "moderation in working," which, it seems to me, could be easily misinterpreted by a young faculty member Few of the major accomplishments have been attained by men or women working only in moderation

In the section on teaching Boice elaborates on his eight rules of moderation (p 99)

1 Wait, reflect, and learn—rather than rush, impatiently and impulsively
2 Begin early at truly important tasks, before feeling fully ready
3 Work in brief, economical sessions
4 Stop in timely fashion, before diminishing returns set in
5 Moderate over attachments to what you prepare, present—and overreactions to criticism
6 Moderate negative thoughts and excessive emotions
7 Let others, even critics, do some of the work
8 Teach with compassion, communicate with immediacy and comprehension, and thus decrease student (and faculty) incivilities

Some of these principles seem to me to be more important than others In particular, rules 5 through 8 seem more easily understood and useful to novice teachers Take number 7, for example Boice states that newcomers often believe that letting others do some of the work is tantamount to self-weakness and, moreover, relinquishes a teacher's autonomy To counter these misconceptions, he points out that effective teachers are known to delegate responsibilities and actually enjoy sharing the credit for collaboration and assistance in their teaching He then discusses some exercises the new teacher might use to increase collaboration, such as looking for potential co-teachers/guest speakers He also lists strategies for learning from colleague classroom visits

In the second section, Boice discusses the same eight rules (plus two others) as they apply to writing Several deal with overcoming anxiety or writing blocks Boice has done some solid research on this topic, and his journal articles, along with this section of the book, may well be the most helpful to beginning faculty members In fact, seasoned faculty members may also find Boice's advice useful for getting "unstuck" Of course, the hardest part of writing is having something worth saying This section assumes that the faculty member has gathered valid information that deals with a worthy issue It does not discuss the identification and exploration of topics

Any book that provides advice for new faculty members should also consider and must address the issue of diversity—both in people who enter academe and the types of institutions that exist In the third section of the book Boice addresses diversity by including literature and study results (especially his own) on new faculty experiences of women and minorities But he could have been more explicit about the differing cultures and expectations of, for example, research universities versus community colleges

In discussing socialization and service, Boice argues that "decisions against retention/tenure/promotion are just as often made subjectively, on the basis of sociability (e g , Can we get along with this person, will he treat students humanely? Is she likely to carry her share of departmental duties?), as in productivity numbers or teaching ratings" I know of no studies that substantiate this statement, nor does Boice provide any evidence He does also warn new faculty about excessiveness in service (committee work), advice that is supported by study results

While the book is addressed to new faculty members, mentors will also find much they can use in advisement Any time advice is offered to someone, the person must be open to it For that reason, this book may be best perused and then used as a reference when the reader feels the need It is filled with references to other guidebooks and includes an annotated bibliography of ten of the best known Boice's references to studies and examples that support his principles are extensive, including 29 of his own publications Compared to the specific advice in McKeachie's *Teaching Tips,* a classic for the new faculty member, Boice's principles are of a broader nature His conversational writing style, sprinkled with quotes from Yogi Berra to Emily Dickinson, help make the book easy to read

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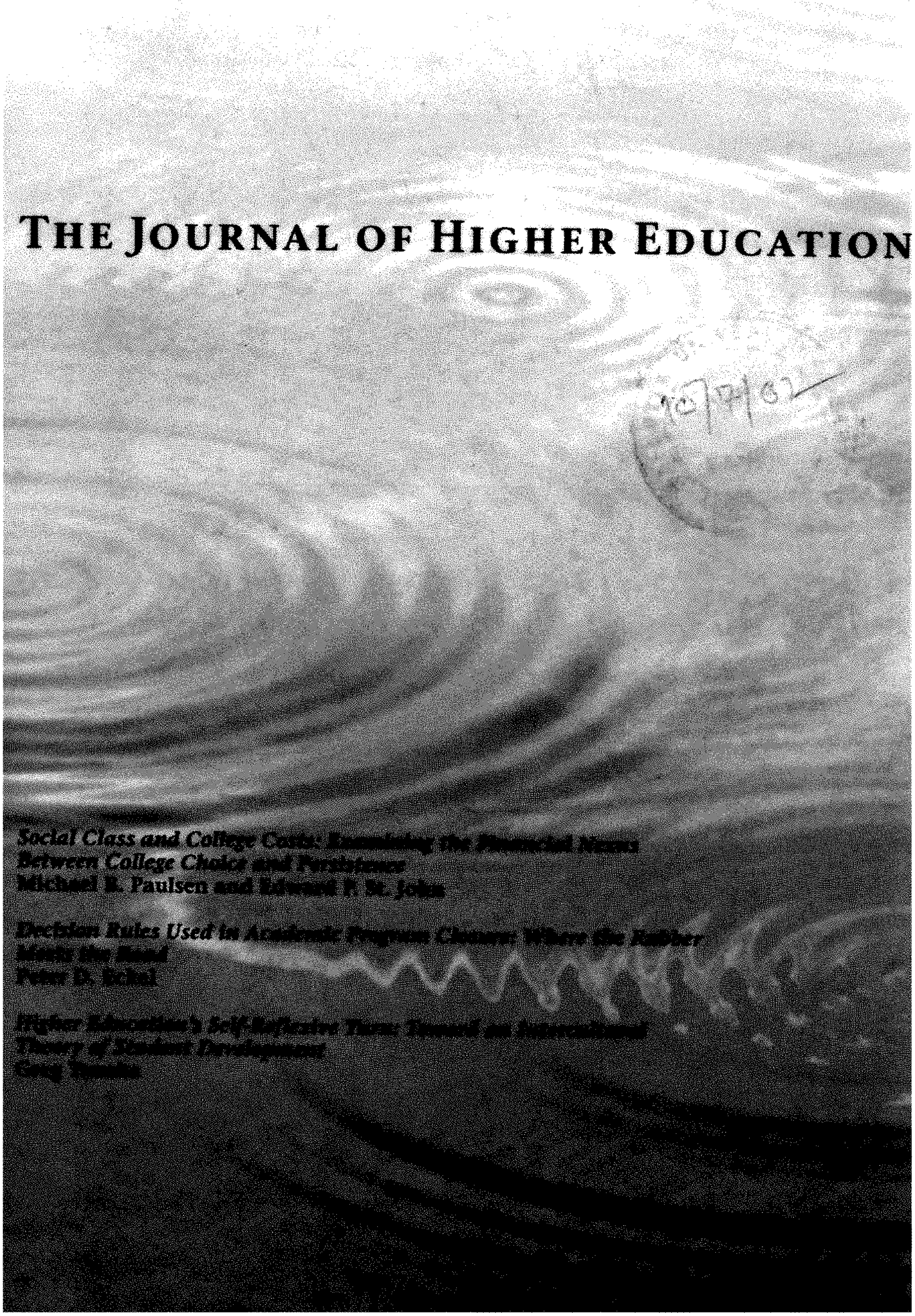

THE JOURNAL OF HIGHER EDUCATION

Social Class and College Costs: Examining the Financial Nexus Between College Choice and Persistence
Michael B. Paulsen and Edward P. St. John

Decision Rules Used in Academic Program Closure: Where the Rubber Meets the Road
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Higher Education's Self-Reflexive Turn: Toward an Intercultural Theory of Student Development
Greg Tanaka

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March/April 2002
Vol 73, No 2

The Journal of Higher Education

MICHAEL B PAULSEN and EDWARD P ST JOHN 189

Social Class and College Costs: Examining the Financial Nexus Between College Choice and Persistence

This study examined how students' enrollment responses to college costs—in both college choice and persistence decisions—vary by social class Findings revealed substantial class-based patterns of enrollment behavior in response to prematriculation perceptions of college costs and actual postmatriculation costs, consistently restricting postsecondary opportunities for lower-income relative to higher-income students

PETER D ECKEL 237

Decision Rules Used in Academic Program Closure: Where the Rubber Meets the Road

By what criteria do institutions decide which academic programs to terminate? This study adopts a decision/action rationality framework to explore the criteria used to close programs at four universities Findings suggest that decisions are based upon criteria other than cost, quality, and centrality and that process leads to criteria generation

GREG TANAKA 263

Higher Education's Self-Reflexive Turn: Toward an Intercultural Theory of Student Development

This article submits survey instruments used by Tinto, Astin, and Pace to five probes from recent social theory—voice, power, authenticity, self-reflexivity, and reconstitution—and proposes a shift in focus in research from essentialized categories like culture and race to relation and learning "between" subjects

BOOK REVIEWS

Cheating on Tests How to Do It, Detect It, and Prevent It, by Gregory J Cizek
REVIEWED BY DONALD L McCABE 297

Distinctively American The Residential Liberal Arts College, edited by Steven Koblik and Stephen R Graubard
REVIEWED BY MICHAEL DELUCCHI 299

Market Values in American Higher Education The Pitfalls and Promises, by Charles W Smith
REVIEWED BY CHRISTOPHER C MORPHEW 300

Assessment Essentials Planning, Implementing, and Improving Assessment in Higher Education, by Catherine A Palomba and Trudy W Banta
REVIEWED BY LION F GARDINER 302

Women Becoming Mathematicians, by Margaret Murray
REVIEWED BY JERILEE GRANDY 305

Creating Contexts for Learning and Self-Authorship Constructive Developmental Pedagogy, by Marcia Baxter Magolda
REVIEWED BY GREGORY S BLIMLING 307

Sex, Race, and Merit Debating Affirmative Action in Education and Employment, edited by Faye J Crosby and Cheryl VanDeVeer
REVIEWED BY M CHRISTOPHER BROWN II 309

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Michael B. Paulsen
Edward P. St. John

Social Class and College Costs

Examining the Financial Nexus Between College Choice and Persistence

During the past two decades there have been fundamental changes in the ways states and the federal government finance higher education (McPherson & Schapiro, 1998, Mumper, 1996, Paulsen, 1998, Paulsen & Smart, 2001, St John, 1994) The federal government has shifted from using grants as the primary means of promoting postsecondary opportunity to using loans for this purpose Decreases in state support for public colleges and universities have led to increases in tuition charges, which have shifted a larger portion of the burden of paying for college from the general public to students and their families (Breneman & Finney, 1997, Mumper, 1996, Paulsen, 1991, 2000) Thus, the last two decades of the twentieth century can appropriately be characterized as a period of high tuition, high aid, but with an emphasis on loans rather than grants How have these changes in the costs of college influenced the opportunities of students in different income groups to attain a higher education? To address this question we examined the ways that college costs affect the college-choice and persistence decisions of students in four different income groups

The idea that research on college students should focus on social class represents a departure from mainstream research on college students,

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The authors wish to thank two anonymous reviewers for their helpful comments on an earlier draft of this manuscript We have incorporated their ideas into our article

Michael B Paulsen is professor and coordinator of graduate studies in higher education in the Department of Educational Leadership, Counseling, and Foundations at the University of New Orleans, and Edward P St John is professor and chair of the higher education program in the Department of Educational Leadership and Policy Studies at Indiana University

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which focuses primarily on students of traditional college-going age and background (Pascarella & Terenzini, 1991) and is centered in traditional values This study extends an alternative approach to the study of college students based on the student-choice construct that has evolved over the past decade (Paulsen & St John, 1997, St John, 1994, St John, Paulsen, & Starkey, 1996) The new approach presented in this study explicitly addresses the diverse patterns of student choice in its examination of the ways in which the effects of financial factors on students' choices differ across social classes To provide background for this study, the following sections present the student-choice perspective that guides the study, describe the salient features of the financial nexus between college choice and persistence decisions, and explain why a focus on social class is an important step in efforts to understand the role of finances in student choice

The Research Literature and Conceptual Framework that Inform the Study

The Student Choice Perspective

Research on college students has been dominated by the research traditions of developmental and change theories (Pascarella & Terenzini, 1991) These research traditions are primarily centered in the values of students of traditional college-going age and background and neither can be easily adapted to the study of the new, contemporary college aspirants, who are increasingly diverse in terms of age, ethnicity, and socioeconomic background It is important to reflect briefly on the limitations of these traditional approaches before presenting student-choice theory as an alternative

The limitations of traditional models One of the dominant traditions in college student research is student development theory (Pascarella & Terenzini, 1991), which started with the study of students of traditional college-going age and background (e g , Chickering, 1969, Perry, 1970) This approach was highly compatible with the characteristics and experiences of traditional students, but is not directly applicable to the college experiences of many of the new aspirants to college, an increasingly-large proportion of whom are minorities and older students Minority students have different backgrounds and experiences before they attend college, compared to the middle-class students who were used as a basis for the developmental theories, while older students have already experienced and passed through many of the developmental sequences that are the focus of traditional stage theories of development

Developmental theory is also limited because it has few direct linkages to matters of public policy The focus is on how students change and how experiences during late adolescence and early adulthood influence personal values, attitudes, and related outcomes These developmental issues have been a central concern in traditional liberal arts education, which values the academic, personal, and moral development of the individual student However, these values and perspectives implicitly assume that students have relatively unimpeded access to and opportunities for postsecondary advancement, and therefore, provide limited insight into the struggles of poor and working-class students in the face of the financial barriers associated with college

The most often used alternative, change theory (Astin, 1993, Feldman & Newcomb, 1969, Pascarella & Terenzini, 1991), also focuses primarily on students of traditional age and background Early change theories tended to focus on inputs, process, and outputs, focusing on how college experiences influenced students (Astin, 1975, 1993) Change research then began to focus on specific educational choices, such as the decision to attend college (St John & Noell, 1989), the choice of college (Jackson, 1978), and the intent to persist (Pascarella & Terenzini, 1979, 1980) Most of the research that tested these theories used data on traditional college-age students from national longitudinal studies and institutional samples of college freshmen However, this second wave of research did consider the ways public policy influenced student outcomes For example, Jackson (1978) and others (Manski & Wise, 1983, St John, 1991, St John & Noell, 1989) examined the influence of federal student aid on expanding access and choice, and Cabrera, St John, and their colleagues considered the effects of student aid on persistence (Cabrera, Nora, & Castaneda, 1992, Cabrera, Stampen, & Hansen, 1990, St John, 1989, St John, Kirshstein, & Noell, 1991) And once the National Postsecondary Student Aid Survey became available, new studies focused on students of nontraditional age and from diverse backgrounds (e g , Kaltenbaugh, St John, & Starkey, 1999, St John & Starkey, 1995b) Nevertheless, the logic of these models adapted concepts that evolved from studies of traditional-age middle-class students without fully considering the diverse patterns of choice related to the diversity of experiences across different groups of students

The student-choice construct Recently, a student-choice construct has been developed that can potentially guide a new wave of research that examines the experiences of diverse groups of students on their own terms First, St John (1994) proposed that a sequence of student choices, leading to various stages of attainment, could be used as a basis for advancing theory and reformulating policy Next, St John, Paulsen and colleagues (Paulsen & St John, 1997, St John et al., 1996) reviewed the literature on college choice and persistence and proposed and empirically tested the choice-persistence nexus as a new way of looking at the effects of financial policies across different types of choices in the sequence. St. John and Hossler (1998) then used the student-choice construct to assess how different types of court-ordered desegregation remedies might promote more diversity in enrollment at various types of institutions. This approach was also influenced by prior work of Walter Allen and colleagues (Allen, Epps, & Haniff, 1991), which focused on a range of educational choices by African American students and offered a lucid contrast to research on students from traditional college-going backgrounds. There are several basic assumptions that underlie this student-choice construct or approach.

There is a sequence in educational choices with explicit policy linkages. The choice sequence includes formation of aspirations, the decision to attend (opportunity), choice of college, choice and change of major, persistence to graduation, and graduate education. These choices are influenced by family background, environmental and educational experiences, and policy-related factors, including postsecondary information, student aid, tuition costs, and debt forgiveness.

There are diverse patterns of student choice, and therefore diverse groups merit study. Policy research on college students should consider diverse groups on their own terms. Patterns of student choice behavior are likely to differ according to the characteristics of diverse groups of students, such as those with different financial means, diverse ethnic groups, women compared to men, and students of traditional and nontraditional age. Studies that emphasize group comparisons provide a basis for refining theory.

Students make educational choices in "situated" contexts. Most theories of student outcomes assume geographic, social, and economic mobility and opportunity, as do most of the economic and social theories on which they are based. However, most of today's potential students have limited mobility, choice, and financial means. Furthermore, the cultures and values or habiti that constitute students' early school and family environments have a substantial influence on the ways they frame and make educational choices.

These principles provide a logical basis for conceptualizing new approaches to research on college students that can contribute to an understanding of diversity and how public policy can better acknowledge, value, and promote diversity in higher education. The overarching assumption behind this approach is that it is important to examine how students make situated decisions based on their own, suited circumstances. This study takes a step forward in this process by using the choice-persistence nexus as a model to examine and compare students from different socioeconomic backgrounds in terms of their perceptions and experiences of financial factors, as well as the impact of finances, on their enrollment behavior.

The Financial Nexus Model

The financial nexus model has established new linkages between the two primary aspects of student enrollment behavior—college choice and persistence—that have been traditionally viewed as two distinct sets of behavior in theory and research (e.g., Astin, 1975, Bean, 1980, Cabrera et al., 1992, 1993, Hossler, Braxton, & Coopersmith, 1989, Pascarella & Terenzini, 1991, Paulsen, 1990, Tinto, 1993). The nexus model is uniquely suited for advancing our understanding of diverse patterns of educational choice, how such patterns may be related to differences in social class, and the ways public policy (e.g., financial policy) can promote and support diversity in higher education. To describe the model, we consider below how it relates to the principles of the student-choice construct outlined above.

First, the nexus model was developed as a means of looking across the sequence of student choices, focusing on how factors that affected earlier choices (i.e., the choice of college) could also influence subsequent choices (i.e., the persistence decision). The initial applications of the concept focused on the financial nexus between college choice and persistence decisions. In particular, initial studies examined the effects of students' financial reasons for choosing a college to attend and the actual dollar amounts of costs and aid, on their decisions to persist in their attendance (Paulsen & St. John, 1997, St. John et al., 1996). A meaningful examination of the financial nexus between college choice and persistence requires the consideration of how two sets of "parallel factors" influence persistence (1) students' perceptions of financial factors, such as the availability of low tuition or high aid, that students view as very important at the time of their initial college choice decisions (finance-related college-choice variables), and (2) measures of the dollar amounts of financial variables (e.g., tuition, aid, living costs) that students actually experience at the time of a subsequent persistence decision.

Financial nexus theory argues that if students perceive low tuition or low living costs to be very important in their choice of college, such cost-consciousness may also have a direct impact on their subsequent persistence decisions. Similarly, in ways consistent with prior research, the actual dollar amounts of costs and aid a student experiences at the time of a persistence decision may have a direct effect on persistence. It is also possible that students' initial concerns about costs and aid at the time of their college choice may subsequently interrelate with their experiences of the actual amounts of costs and aid in the determination of their persistence decisions Initially, students are assumed to compare the costs and benefits of attendance based on their prematriculation perceptions or expectations about financial factors, a favorable judgment results in enrollment, which establishes an "implicit contract" between the student and the college Subsequently, students compare their actual experiences of costs and benefits with their earlier perceptions and expectations about them In the face of a favorable comparison, the student would view the implicit contract as inviolate, and a decision to re-enroll would result Each of these arguments posed by the nexus model has been supported in initial empirical analyses (Paulsen & St John, 1997, St John et al , 1996), thereby supporting the view that students engage in a series or sequence of related choices, and at each stage their decisions are affected by financial factors

Second, the nexus model can be used to examine cross-group comparisons, provided that the database has sufficient diversity In the second study using the financial nexus, Paulsen and St John (1997) compared persistence decisions by students in public and private colleges Students attending private colleges were much more likely than those at public colleges to consider high aid an important factor in their college choices, were less sensitive to tuition and living costs, and were more substantially and positively influenced by grant aid In contrast, students in public colleges more frequently considered low tuition important, were more responsive to tuition and living costs, considered location (close to home and could work) to be important, and were more negatively impacted by the inadequacy of student grants Based on these findings, it seems appropriate to make further group comparisons

Finally, the nexus model also provides insight into the situated and contextual nature of college choice One of the most important findings of the first study of the financial nexus (St John et al , 1996) was that students have dramatically different choice contexts, which have a pervasive influence on multiple stages of the sequences of student choices Some students chose their colleges because of the availability of high aid or low tuition, as we would expect from prior research on traditional-age college students (e g , Jackson, 1978, Manski & Wise, 1983) Others chose their colleges so they could economize on their living costs (e g , by living at home) or so they could continue to work while attending college, patterns that would seem more compatible with non-traditional students who often have more constrained choices because of their limited financial resources or experiences Findings from the second study of the financial nexus (Paulsen & St John, 1997) illuminated the role of students' circumstances in framing and constraining their educational choices Choosing a college because it was close to home was consistently interrelated with living costs, whereas choosing a college because of low tuition or high aid was interrelated with students' responsiveness to costs and subsidies Furthermore, these different patterns accentuated differences in the circumstances that constrained choices for students in public colleges compared to students in private college Therefore, it is appropriate to use the financial nexus model to make additional group comparisons that will advance our understanding of the situated and contextual nature of student choice

A Focus on Social Class and the Role of Finances

Although higher education research has given only limited consideration to the role of social class, it has long been evident that class plays an important role in education and attainment and should be considered when critically examining educational policy A substantial volume of research has theoretically and empirically indicated that educational institutions and policies play a role in the class-based reproduction of social and economic stratification in American society (Bowles & Gintis, 1976, Carnoy & Levin, 1985, Jencks & Peterson, 1991, Morrow & Torres, 1998) The observation that social class structures educational opportunities has been documented for secondary education and vocational education (Grubb & Lazerson, 1981, Trow, 1977), for community and technical college education (Clark, 1960, Karabel, 1977), and for postsecondary education at other types of private and public colleges and universities (Hearn, 1984, 1990, McDonough, 1997, 1998) However, Carnoy and Levin (1985) conclude that the American system of "education both reproduces the unequal hierarchical relations of the nuclear family and capitalist workplace and also presents opportunities for social mobility and the extension of democratic rights" (p 76) The present study, among other things, offers an investigation of the validity of this assertion

Recent application of social reproduction theory to investigations of college students' enrollment decisions (DiMaggio & Mohr, 1985, Freeman, 1997, Karen, 1988, McDonough, 1997, 1998) have been based on applications of Bourdieu's concepts of "cultural capital" and "habitus" (Bourdieu, 1977a, 1977b, Bourdieu & Passeron, 1990) *Cultural capital* represents forms of symbolic wealth that are transmitted from upper- and middle-class parents to their children to sustain class status from one generation to the next (McDonough, 1997) Examples include familiarity with and access to the linguistic structures, school-related information, social networks, and educational credentials of dominant groups (Bourdieu, 1977b, Bourdieu & Passeron, 1990, Lamont & Lareau, 1988, McDonough, 1997, 1998, Swartz, 1997) *Habitus* is an enduring, internal system of values, attitudes, beliefs, and actions, which is derived from the student's immediate family, community, and school environments and is common to members of one's social class A student's social class and her related cultural capital and habitus consistently frame, constrain, and structure students' patterns of college choice (Bourdieu, 1977b, McDonough, 1997, 1998)

The habitus construct can be related to the student-choice construct and the financial nexus model used in this study A student's habitus provides a powerful filter that implicitly determines what a student "sees," how the student interprets and values what she sees, and what action she will take as a result When it comes to the financial nexus between college choice and persistence decisions, one's habitus would operate implicitly to frame, constrain, and inform the patterns of students' responses to financial factors in such choices in ways that are consistent with the views of others in the student's social class In other words, each student's habitus serves to "situate" or "contextualize" their choices, and it represents a set of relatively stable predispositions with respect to what the student will see and value regarding the financial aspects of choice and persistence decisions (Berger, 2000, Paulsen & St John, 1997)

There are also reasons to expect that an understanding of social class is critical to understanding the role of finances in students' choice and persistence decisions It has been well documented that the recent changes in federal student aid policy have been especially problematic for low-income students compared to more affluent students (St John & Starkey, 1995a), and more troublesome for African Americans than whites (Kaltenbaugh et al , 1999) In addition, a student's social class, cultural capital, and habitus influence how cost-conscious students are and even how students conceive of financial issues as part of the college-going decision (McDonough, 1997) And research has shown that lower-income students are more sensitive to college costs in their decision making than upper-income students, African American students are more sensitive to college costs than white students, community college students—which include a disproportionate share of low-income and minority students—are more sensitive to college costs than students attending other types of institutions (Heller, 1997, Leslie & Brinkman, 1988) Therefore, there is good reason to use the nexus model to examine the role of finances in student choice, with a particular focus on building an understanding of class differences in students' experiences with financial factors in their enrollment decision making

The student-choice construct and financial nexus model used in this study also embrace some of the perspectives of critical theory (Apple, 1982, Foster, 1986, Tierney, 1992) For example, the present study examines the ways in which the effects of financial factors on students' choices differ across social classes Therefore, this study explicitly examines the implicit assumption made in most previous research on college students in general, and in research on student choice in particular, that all students make their choices under similar circumstances, in similar situations and contexts, and based on similar habiti Alternatively, the presence of substantial class-related patterns of choice behavior in response to financial policies would indicate that social class, at least to some extent, serves to structure postsecondary opportunities and reproduce class-related patterns of educational attainment (Bourdieu & Passeron, 1990, Bowles & Gintis, 1976, Carnoy & Levin, 1985, Hearn, 1990, Karen, 1988, McDonough, 1997, 1998)

Methodology

This study used a refined version of the financial nexus model to examine persistence by undergraduates in four distinct income groups The financial nexus model examines the effects of student background, perceptions or expectations about costs (financial reasons for choosing a college), college experience (including measures of student achievement in college), current aspirations, and finances (market-based, monetary measures of prices and subsidies) on persistence The key feature of the nexus approach is that it examines the influence on persistence of both cost-related factors that students considered important in their choice of college and the prices and subsidies students encountered at the time of subsequent persistence decisions The variables used in the refined model are presented in Table 1 [1]

First, we included fifteen variables related to student background Most of these variables were coded and included as design sets of dichotomous variables for ethnicity (African Americans, Latinos, and Asians are compared to others),[2] mother's education (students whose mothers completed less than high school, college degrees, master's degrees, and advanced degrees were compared to students whose mothers had a high-school education), and high-school experience (students with GEDs and without high-school diplomas were compared to students with high-school diplomas) [3] Several more dichotomous variables were included males were compared to females, married students were compared to unmarried students, working students were compared to students who did not work, and financially independent students were

TABLE 1
Variable Coding

Variable	Coding
STUDENT BACKGROUND	
Ethnicity	
African American	1, 0
Latino	1, 0
Asian	1, 0
Other	Comparison group
Gender	
Male	1, 0
Mother's Education	
Less than high school	1, 0
High school	Comparison group
Some college	1, 0
College	1, 0
Master's	1, 0
Advanced	1, 0
Age	
Years old	year of age
Marital Status	
Married	1, 0
High school	
GED	1, 0
No high-school diploma	1, 0
High-school diploma	Comparison group
Employment	
Working	1, 0
Dependency Status	
Independent	1, 0
COLLEGE CHOICE (Perceptions/Expectations of Costs)	
Fixed Costs	
Financial aid	1, 0
Low tuition cost	1, 0
Tuition & financial aid	1, 0
Controllable Costs	
Low living cost	1, 0
Could work	1, 0
Living cost & work	1, 0
COLLEGE EXPERIENCE	
Private	1, 0
Four-year	1, 0
On campus	1, 0
Full-time	1, 0
Year in College	
Freshman	Comparison group
Sophomore	1, 0
Junior	1, 0
Senior	1, 0
Grades	
Below C	1, 0

TABLE 1 (*Continued*)

Variable	Coding
Mostly C	1, 0
B Average	Comparison group
Mostly A	1, 0
Not reported	1, 0
ASPIRATIONS	
Vocational	1, 0
Some college	1, 0
College	Comparison group
Master's	1, 0
Advanced	1, 0
FINANCIAL	
Fixed Costs	
Grant $	$/1,000
Loan $	$/1,000
Work $	$/1,000
Tuition $	$/1,000
Controllable Costs	
Food/housing $	$/1,000

compared to dependent students Finally, age was treated as a continuous variable

Many of these background variables may be related to social class differentiations For example, in social attainment theory, income and parents' education are sometimes combined to create general hierarchical measures of social class (Alexander & Eckland, 1975, Blau & Duncan, 1967) However, a substantial volume of research has demonstrated that students' degree of concern about and responsiveness to college costs in their enrollment decisions are consistently and inversely related to the incomes of students and their families (Heller, 1997, Leslie & Brinkman, 1988, Paulsen, 1998, St John & Starkey, 1995a) Because the purpose of this study is to analyze the relations between social class and students' sensitivity to college costs, we chose to examine the influence of various levels of mothers' education and other background variables on persistence within four distinct income categories Descriptive statistics presented in a later section illustrate salient differences across the four income groups that correspond with the social class distinctions that are widely discussed in the literature

Mother's education was used in the nexus model for a couple of reasons First, previous research indicates that mother's education predicts persistence better than father's education or parents' education (St John, Kirshstein, & Noell, 1991) Second, mother's education is a more appropriate predictor because many students are from single parent homes, which means that a larger percentage of students are likely to be influenced by their mothers on a day-to-day basis In this study, we examine the influence of mother's education, along with other background variables, on persistence by students in different income groups We estimated the parameters of the financial nexus model separately for each of four income groups The four groups were consistent with those used in previous research using NPSAS87 data (e g , St John & Starkey, 1995a) low-income students had income less than or equal to $11,000, lower-middle income students had income above $11,000 but less than $30,000, upper-middle-income students had income of at least $30,000 but less than $60,000, and upper-income students had income equal to or greater than $60,000

Second, we used two design sets of dichotomous variables as measures of the perceptions and expectations about college costs held by students when they chose their colleges The first set of variables provides an indication of the ways students viewed fixed costs related to choosing their colleges students who considered financial aid, low tuition, or both low tuition and student aid as very important in their college choice were compared to students who did not think any of these fixed cost variables were very important These variables serve as indicators of students' expectations or perceptions about the costs of attending Examining the influence of these college-choice-related variables within the four income groups provides insight into social class differences in the perceptions and expectations of educational costs In addition, we coded a design set of dichotomous variables related to controllable costs, the financial factors that enable students to keep their own costs down and/or earn more money while in college This set of variables compared students who rated low living costs, being able to work, or both living costs and could work as very important in their college choices Examining these college-choice-related variables across income groups provides visibility into social-class-related perceptions of ability to manage the affordability of college In combination, these two sets of variables provide substantial insight into the perceptions and expectations held by different students about their ability to pay for their education when choosing which college to attend

Third, ten variables related to the college experience were examined These included three dichotomous variables students attending four-year colleges were compared to students in two-year colleges, and full-time students were compared to students attending less than full time [4] We used a design set of binary variables for year in college sophomores, juniors, and seniors were compared to freshmen Another set was used for college grades students with below-C grades, C averages, mostly A's, and no reported grades were compared to students with B averages [5]

Fourth, current aspirations were coded as a design set of dichotomies Students who aspired to complete a vocational qualification, some college, master's degree, or advanced degrees were compared to students who aspired to complete their college degrees In combination, the sets of variables related to student background, perceptions and expectations about college costs, college experiences and current aspirations constitute the base model for which the parameters were estimated in step one of the analysis for each income group

Finally, five finance variables were treated as actual amounts [6] Grants, loans, work study, and tuition charges were added in a separate step (step two), to examine how these fixed costs—set by the institution—influenced persistence Then living costs for food and housing—that is, costs over which many students, whether they live on campus or off campus, exercise some degree of control—were entered in the third step [7] By adding these two types of finance variables, we built a more complete portrayal of the ways finances—that is, actual dollar amounts of tuition, aid, and living costs—interrelate with students' earlier perceptions and expectations about college costs when choosing to attend their respective colleges, as well as with other background and experience variables, for students in different income groups

Data and Statistical Methods

Consistent with prior analyses using the financial nexus model, this study uses the National Postsecondary Study Aid Survey of 1987 (NPSAS87) [8] The 1987 National Postsecondary Student Aid Survey (NSAS87), the database used for previous nexus studies (Paulsen & St John, 1997, St. John et al , 1996), is an especially appropriate database to use for this study, given our intent of examining class differences in how students experience financial factors in their college-choice and persistence decisions In a study of this type, it is important to have a sample that represents all postsecondary students, as well as to have a database of sufficient size to be able to break it down by diverse subgroups First, NPSAS87 was the first national sample of students already in college Prior national databases used samples of high-school seniors, then followed the sampled cohort through their college years It was not possible to examine college persistence by older students and high-school dropouts using these other databases Second, NPSAS87 included a fall sample and a follow-up spring survey. This was an appropriate sampling approach for assessing within-year persistence, the persistence outcome that is more directly related to college affordability and price response.[9] Subsequent NPSAS databases have had a revolving sample ensuring that students who enrolled in the spring but not the fall had an equal chance of being sampled. This sampling approach unfortunately confounds the fall-to-spring and spring-to-fall persistence decisions—which are conceptually distinct decisions, as noted in a footnote previously—and also reduced the size of the sample, which could limit group comparisons for income groups or ethnic groups. Thus, NPSAS87 represents the best available database for group comparisons of the type undertaken here.

Logistic regression was used in these analyses because it is an appropriate statistical method for the study of variables that influence qualitative, dichotomous outcomes, such as persistence (Cabrera, 1994, Menard, 1995). Further, we used a sequential logistic analysis, which provides visibility into the ways different sets of variables interrelate to influence persistence. We analyze three logistic persistence models for each income group. In step one, we estimate the parameters of the basic model that examines the effects of variables related to student background, perceptions and expectations of college costs, college experiences, and current aspirations. In the second step, we add the "fixed" cost variables (tuition and aid). In the final step we add living costs for food and housing, a "controllable" cost for *both* on-campus and off-campus students.[10] When the significance of a variable changes between step one and steps two and three—that is, after the college cost measures are added to the base model—the interrelations among variables included in the various steps provide plausible explanations for changes in significance (Kmenta, 1986). Therefore, examining these interrelations becomes an important and useful feature of the subsequent sections in which the results of these analyses are presented.

Our analyses present delta-*p* statistics for the variables included in each model. We used a method for calculating delta-*p*'s proposed by Petersen (1984) and recommended by Cabrera (1994). The delta-*p* provides a measure of the change in probability of persistence attributable to a unit change in an independent variable. The delta-*p* provides a more easily interpreted measure of influence than do the beta coefficients or odds ratios.

In addition, we present a set of indicators of the quality of the model. This includes several measures related to the model's goodness-of-fit: a Somer's *D*, the R_L^2 statistic, which is a pseudo-R^2 recommended for use in logistic regression by Hosmer and Lemeshow (1989) and Menard (1995),[11] and the minus 2 log likelihood and the chi-square tests of its significance. The primary focus of our discussion, however, is on the direct effects of the variables in the model, as well as the interrelations among variables, rather than on the quality or goodness-of-fit of the various models

Limitations The Data, Variables, and Procedures

This study does have a few limitations Perhaps the most substantial limitation is that NPSAS87 lacks information on student achievement in high school, such as grades or achievement test scores However, college and high-school achievement are usually highly correlated, and research has demonstrated that measures of high-school achievement or other precollege ability measures are only relevant to the prediction of persistence in the early college years For the later years of college, high-school grades become less important, and college grades become more important in the prediction of persistence (Cabrera, Stampen, & Hansen, 1990, St John, Kirshstein, & Noell, 1991) Therefore, the absence of such a measure is not necessarily problematic Furthermore, we do examine the influence of two variables related to high-school completion, which have proven to be consistently significant and useful for illustrating that persistence is affected by students' high-school experiences in prior studies (e g , St John, Andrieu, Oescher, & Starkey, 1994)

Another possible limitation is that NPSAS87 was based on a sample of students initially studied in the fall, and then again with a follow-up survey in the spring (NCES, 1988) This sequence of events constitutes a sampling procedure that would have excluded students for whom the spring semester was the first semester of enrollment Although this does not seem problematic, to the extent that there are differences in the between-semester persistence behaviors of those who started in the fall and those who started in the spring, the findings of this study may not be generalizable to the latter group

Similarly, the sampling procedures employed might pose another possible limitation in the data The initial surveys were conducted in mid-October of the fall semester This means that students who began school in the fall semester, but dropped out in the first four or five weeks would not have been included in the sample Therefore, the behavior of early-term dropouts, which may or may not differ from later-term dropouts, is not examined in this study

The sample did contain some missing values for some of the variables included in the model, necessitating the deletion of some cases for the analysis However, the number of missing values was small and the distribution of the missing values was assumed to be random

Another issue relates to the fact that NPSAS87 is more than a decade old However, because the policy shift toward higher tuition, lower grants and more loan aid began substantially before 1986–87, this shift has continued in the 1990s, and government grant aid has not increased substantially since the late 1980s (College Board, 1998), the timing of the survey is situated around the middle of this period of policy changes Therefore, we think this data set reflects well the current period of public finance However, tuition and loans have increased substantially in the past decade, thus some of the problems identified in this analysis may have become more serious Therefore, in order to capture the probable intensification of the problematic relations between social class and college costs observed in this study, it may be desirable to replicate these analyses using a more current national database

Findings

The results of the analysis of the financial nexus are presented in six parts First, we examine and compare the descriptive statistics for undergraduate students in the four income groups Then we present the results of the sequential logistic regression analyses for the four income groups We examine the effects of each of the five sets of variables separately, first across the three steps for each income group and then across the four income groups to highlight cross-class comparisons Our analyses focus on building an understanding of how differences across social classes influence perceptions and expectations of costs and on how the effects of college costs on both choice and persistence decisions vary across income groups

Income and Social Class Cross-Class Comparisons of Descriptive Statistics

Undergraduates in the four income groups are compared in Table 2 There are clear differences across the four income groups that correspond with the class distinctions often made in the literature We briefly review the characteristics of the four groups

Low-income students First, the low-income group is really comprised of two groups About half are independent (46%), which helps explain why these students are older, on average, than the other three groups Financial aid policy allows older students who are financially independent to apply for student aid, using their own income as a basis for need calculations Thus, when we divide the population by categories related to adjusted gross income, a little more than half of the low-income students were from families that earned less than $11,000 and a little less than half had personal earnings (earnings with spouses) that were below this amount Clearly $11,000 was a low income in 1987, but the meaning of

TABLE 2

Comparison of Income Groups

	Low Inc		Low Mid		Up Mid		Upper	
	%	Ave	%	Ave	%	Ave	%	Ave
STUDENT BACKGROUND								
Ethnicity								
African American	14 6		9 6		4 2		2 3	
Latino	6 3		5 1		3 1		2 4	
Asian	6 1		4 8		3 4		4 4	
Gender								
Male	44 2		45 3		48 3		48 0	
Mother's Education								
Less than high school	22 3		17 6		8 2		4 0	
High school	34 6		37 9		32 2		15 9	
Some college	23 3		24 4		25 7		20 7	
College	12 4		12 8		20 4		29 8	
Master's	4 8		4 6		9 6		15 9	
Advanced	2 7		2 6		3 9		13 7	
Age								
Years old		25 2		23 7		22 3		21 4
Marital Status								
Married	18 9		20 4		14 9		7 8	
High School								
GED	5 5		2 7		1 3		0 8	
No high-school dipl	4 1		2 5		2 0		1 8	
High-school diploma	90 4		94 8		96 8		97 4	
Employment								
Working	60 9		64 4		58 3		45 1	
Dependency Status								
Independent	46 4		29 0		13 4		5 5	
COLLEGE CHOICE								
Fixed Costs								
Financial aid	27 2		21 9		13 2		5 3	
Low tuition cost	14 9		19 2		23 4		16 7	
Tuition & fin aid	22 0		17 1		8 7		3 6	
Controllable Costs								
Low living cost	11 9		11 5		10 7		7 3	
Could work	28 1		30 5		23 5		14 7	
Living cost & work	13 9		13 1		10 7		5 3	
COLLEGE EXPERIENCE								
Private	38 6		42 0		44 3		56 4	
Four-year	76 9		77 5		83 8		92 0	
On campus	23 7		30 4		39 0		47 8	
Full-time	76 0		72 8		79 1		86 1	
Years in College								
Freshman	27 0		30 5		29 9		27 7	
Sophomore	24 1		26 8		26 3		24 5	
Junior	22 5		20 8		21 6		21 8	
Senior	26 4		22 1		22 2		26 0	
Grades								
Below C	7 1		6 8		6 6		5 3	

TABLE 2 (*Continued*)

	Low Inc		Low Mid		Up Mid		Upper	
	%	Ave	%	Ave	%	Ave	%	Ave
Mostly C	34 9		32 2		34 3		34 4	
B Average	28 4		29 7		30 7		31 4	
Mostly A	3 2		4 0		2 9		2 4	
Not reported	26 4		27 3		25 6		26 4	
ASPIRATIONS								
Vocational	2 7		2 0		1 3		0 5	
Some college	10 3		9 4		6 3		3 1	
College	39 0		42 9		43 1		37 6	
Master's	32 5		31 9		35 4		39 1	
Advanced	15 5		13 8		13 8		19 8	
FINANCIAL								
Fixed Costs								
Grant $		2,083		1,658		936		465
Loan $		1,161		1,045		787		354
Work $		162		148		84		33
Tuition $		2,396		2,608		3,087		4,311
Controllable Costs								
Food/housing $		1,369		1,349		1,652		2,139
PERSISTENCE								
Within year	89 6		89 5		91 6		94 0	
Sample *N*		4,862		7,647		10,120		4,130

this income varies for the two subgroups some are younger and from families with little discretionary money, others are living on a low income themselves Both subgroups would have limited financial support for college, but they could have different backgrounds

The low-income subpopulation has a larger percentage of minority students than the other three income groups Further, more than half of these students had mothers who had a high-school education or less—that is, they are first generation college students Both of these characteristics indicate a lower socioeconomic status However, about 12% did have mothers with college degrees and more than 7% had mothers with a master's degree or higher Thus, some of the low-income college attenders were from families with attributes that are generally associated with a higher socioeconomic status Some of these downwardly mobile students may have attended college when they were younger, then returned after becoming financially independent This is consistent with the fact that the low-income subpopulation had a slightly lower percentage of students who were freshmen and a slightly higher percentage who were seniors than did the other income groups

A larger percentage of low-income students and lower-middle income students were females There are two probable explanations for this First, low-income families were more likely to encourage their daughters to attend Prior research indicates that, compared to white undergraduates, a larger percentage of African American undergraduates are females (Kaltenbaugh et al , 1999) Second, more adult women than men could return to college as adults For women especially, attaining at least some college—research indicates at least six months of postsecondary education makes a significant difference—represents an important step toward increased earnings (Grubb, 1996, Lewis, Hearn, & Zilbert, 1993), an important motivation for returning to college Thus, the current study provides an opportunity to examine gender differences across income groups

Whether they are from low-income families and are potentially upwardly mobile, or they are living out a reverse pattern, college costs are an important factor in the college-choice process for low-income students Most (64%) chose a college because of low tuition, student aid, or both Further, more than half (54%) chose their colleges because they were close to their work, because they could have low living costs while attending, or both Thus, the low-income students treated cost-related factors as a major consideration in their college-choice process These financial constraints also appear to influence where low-income students attend Compared to other income groups, a larger percentage of the low-income group attended public and two-year colleges, and a smaller percentage lived on campus

In general, the overall distribution of grades these undergraduates received did not differ substantially from the other three income groups, however, low-income—and even more so for their lower-middle-income counterparts (see below)—students received more A's than upper- and upper-middle-income students Nevertheless, when compared to other income groups, a higher percentage of low-income students aspired to complete only a vocational qualification or only some college, rather than complete a college or advanced degree

Consistent with their financial status, low-income students received larger average loans and grant amounts than the other populations However, they also attended lower-cost colleges In fact, even though the average combined award for loans and grants was greater than the average tuition charge, it was still well below the total of tuition and living costs, indicating a substantial unmet need for low-income (and lower-middle-income) students

Lower-middle-income students Second, students from lower-middle-income families have a similar profile to that of low-income students, but students in this income group are more aptly characterized as "working class" The lower-middle-income group included a relatively high percentage of minority students, and more than half of the students (56%) had mothers who had not attended college Less than one-third (29%) were financially independent and most were working (64%) Indeed, a larger percentage of students in the lower-middle-income group were working than in any of the other three groups These working-class students had constrained college choice, due to limited ability to pay, but were committed to attaining a college degree

The college choice variables indicate a clear concern about college costs among lower-middle-income students More than half (55%) considered work and/or living costs as very important in their college choices A majority (58%) also considered tuition and/or student aid as very important in their college choices Consistent with this concern about college costs, a smaller percentage of lower-middle-income students—compared to those in all other income groups—attended full time, further reflecting their concern about affordability

In spite of having a constrained choice of college because of concerns about college costs, lower-middle-income students achieved academically in college Compared to the other income groups, a larger percentage of these students had mostly A grades, however, a lower percentage aspired to attain more than a bachelor's degree Thus, lower-middle-income students seem focused on more immediate goals of attainment of four-year degrees and are working hard toward these goals they exhibit a working class academic ethic

Student aid played an important role for lower-middle-income students The average of grant and loan aid was about equal to their average tuition charges Like low-income students, they had loans averaging more than one-thousand dollars, but they had lower average grants (by more than four-hundred dollars) and higher tuition charges (by more than two-hundred dollars) Thus they faced substantially higher net prices and were challenged by substantial unmet need Further, lower-middle-income students had slightly lower living costs than the low-income students, further indicating their concern about managing college costs

Upper-middle-income students Third, upper-middle-income students followed a pattern typically associated with the "middle class" A relatively small percentage were from minority groups, a large percentage were male, and many more students had mothers with college degrees than did students in the two lower-income groups More than half worked while in college (58%)

Concerns about college costs were still important considerations to these upper-middle-income students, though clearly not as important as they were to the lower-income student groups About 45% considered fixed costs (student aid and/or tuition) issues very important in their college choice and a similar percentage considered controllable costs (low living costs and/or having a college close to work) very important Thus, a little less than half made costs a major consideration in their college choice process

Upper-middle-income students were more likely than students in the two lower-income groups to attend private, four-year campuses Larger percentages also attended college full time and lived on campus Their average grades were similar to both lower-income and upper-income students However, a larger percentage of upper-middle-income students aspired to attain master's and more advanced degrees than did students in the two lower-income groups

For upper-middle-income students, financial aid was less substantial in comparison to tuition than for students in lower-income groups The average grant and loan were about seventeen hundred dollars compared to an average tuition of over three thousand dollars Further, upper-middle-income students also had higher living costs than either low-income or lower-middle-income students

Upper-income students Finally, upper-income students can be characterized as being in the "upper class" of American society There was a far lower percentage of minorities and a higher percentage of students whose mothers held college and advanced degrees than in any of the other income groups They were younger, less likely to be married, and more likely to have graduated from high school Less than half worked and few were financially independent Their demographic characteristics closely paralleled those typically associated with the social elite

Cost considerations did not play a substantial role in the college choices made by most upper-income students Only about one quarter considered student aid and/or low tuition to be very important in colleges choices, and only 27% considered low living costs or being close to work to be very important

Their college choices also reflected this lack of concern about college costs More than half (56%) attended private colleges, nearly all (92%) attended four-year colleges, almost half (48%) lived on campus, and most (86%) attended full time However, their average grades were similar to students in other income groups Their aspirations were higher, however, and they persisted at a higher rate Thus, they appeared to benefit from their more stable financial situations Their aid packages were substantially lower than any other group, and their average tuition charges and living costs were substantially higher.

In general, the results of this analysis of the social class distinctions across income groups—especially when comparing the lower-income with the higher-income subgroups—are consistent with previous research on the social stratification of educational attainment and postsecondary destinations of college-bound students (e g , Hearn, 1984, 1990, Paulsen, 1990) These findings reveal empirical manifestations of variations in educational participation and attainment based on class-related differences in students' cultural capital, habitus, and perceptions of entitlement (Bourdieu, 1977b, Bourdieu & Passeron, 1990, McDonough, 1997, McDonough, Antonio & Trent, 1997) Various indicators of social class reproduction are apparent, especially when comparing the low-income and working-class groups with the two higher-income groups, in the following class-based contrasts (1) lower-income (low- and lower-middle-income) students are more likely than higher-income (upper-middle- and upper-income) students to earn A grades, but aspire to substantially less postsecondary education, (2) compared to higher-income students, substantially more lower-income students have mothers without a high school education and are more likely to be high-school dropouts themselves, (3) substantially more lower-income students than higher-income students work while attending college, (4) lower-income students are much more likely than higher-income students to be highly cost conscious in their college choice behavior, and (5) compared to higher-income students, lower-income students are less likely to attend private colleges or four-year colleges, live on campus, or attend full-time In these and other ways, the social reproduction of the existing class-based distributions of cultural capital, economic capital, and other patterns of privilege in our society is apparent in the class-based patterns of participation in our system of postsecondary education

The Financial Nexus and Social Class Cross-Class Comparisons from the Sequential Logistic Regression Analyses

In this section we present the findings of our sequential logistic regression analyses of the effects of student-background, college-choice, college-experience, aspirations, and financial variables on the persistence decisions of students in four distinct income groups low-income (the poor), lower-middle-income (the working class), upper-middle-income (the middle class), and upper-income (the elite) students As shown in Table 3, these effects were estimated separately for each income group, using a three-step sequential logistic regression approach Step 1 (the initial model) included all student background, college-choice, college experience, and aspirations variables Then, in step 2 (the tuition and aid model), a set of four fixed-cost financial variables were added—grants, loans, work study, and tuition. Finally, in step 3 (the housing and food or "final" model), students' living costs for housing and food—their controllable costs—were added.

In order to clarify the within-class effects of various factors on persistence, as well as to highlight the cross-class comparisons of these effects, we examine the effects of each set of variables—background, college-choice, college-experience, aspirations, and financial—separately, first across the three steps for each income group, and then across the four income groups, in the following sections. The analysis of persistence by low-income students provides insight into the ways students who are living in poverty contend with college costs in their educational choice processes, while the analysis of persistence by lower-middle-income students provides insight into the ways working-class students view and respond to colleges costs. The examination of persistence behavior among upper-middle-income students enhances understanding of the ways that students in America's middle class address the costs of college, while analysis of persistence decisions of upper-income students provides insights into how students from society's elite class view college costs.

Student background variables. Among poor (low-income) and working class (lower-middle-income) students, African Americans were more likely than white students (the base group) to persist, but African American students from the middle (upper-middle-income) or elite (upper-income) classes were no more or less likely to persist than other-race students. For low-income students, African Americans were more likely to persist in the first version (step 1) of the model, but not in the second two (steps 2 and 3). This was apparently attributable to the fact that African Americans received higher aid packages than students in the other ethnic groups (Paulsen, St. John, & Carter, forthcoming). African Americans were consistently more likely to persist than white students in the lower-middle-income group. Apparently, African Americans in the lower-middle-income group were less dependent on student aid than low-income African Americans, a conclusion we reach because the significance of this variable did not change when aid was added, as it did in the model for low-income students.

Latinos in the lower-middle-income group were more likely than white students to persist in the first version of the model but not in the second or third. Latinos choose to attend colleges with lower costs and are more loan averse than other ethnic groups (Paulsen, St. John, & Carter, forthcoming). Therefore we suspect that this change in significance is attributable to the ways Latino students respond to college

TABLE 3

Sequential Logistic Regression Analysis Across the Four Income Groups Delta-p Statistics

SET/Variable/ Measures	Low-Income Step 1 Init Model	Low-Income Step 2 Tuit & Aid	Low-Income Step 3 House & Food	Lower-Middle-Income Step 1 Init Model	Lower-Middle-Income Step 2 Tuit & Aid	Lower-Middle-Income Step 3 House & Food	Upper-Middle-Income Step 1 Init Model	Upper-Middle-Income Step 2 Tuit & Aid	Upper-Middle-Income Step 3 House & Food	Upper-Income Step 1 Init Model	Upper-Income Step 2 Tuit & Aid	Upper-Income Step 3 House & Food
BACKGROUND												
Ethnicity												
Afr American	0.024*	0.018	0.022	0.024*	0.022*	0.024*	0.017	0.001	0.015	0.011	0.005	0.010
Latino	0.013	–0.005	–0.001	0.022*	0.006	0.010	0.030*	0.023*	0.026*	–0.051	–0.052	–0.049
Asian	–0.142*	–0.172*	–0.146*	–0.024	–0.039	–0.032	–0.032	–0.045*	–0.036*	–0.022	–0.036	–0.022
Gender												
Male	0.017*	0.016	0.017*	0.001	0.003	0.006	–0.003	–0.002	0.003	0.010	0.012	0.013*
Mother's Education												
Less than h s	–0.007	–0.009	–0.009	–0.014	–0.020*	–0.018	–0.007	–0.008	–0.004	–0.023	–0.023	–0.023
Some college	0.015	0.012	0.015	0.003	–0.006	–0.003	–0.007	–0.007	–0.005	–0.031*	–0.034*	–0.037*
College degree	0.044*	0.040*	0.039*	0.016	0.009	0.015	0.007	0.008	0.009	–0.094*	–0.104*	–0.103*
Master's	0.026	0.024	0.027	–0.008	–0.015	–0.010	0.022*	0.022*	0.024*	–0.041*	–0.046*	–0.036*
Advanced	–0.039	–0.039	–0.037	0.031	0.028	0.028	0.030*	0.035*	0.037*	–0.048*	–0.040*	–0.039
Age												
Years old	0.001*	0.001	0.001	–0.001	–0.001	–0.001	0.001*	0.001	0.001	0.001*	0.001*	0.001
Marital Status												
Married	0.013	0.003	0.002	–0.003	–0.006	–0.005	0.011	0.009	0.011	0.021	0.020	0.019
H-S Experience												
GED	0.051*	0.052*	0.049*	0.008	0.009	0.013	–0.002	0.010	–0.009	–0.004	0.006	0.007
No h s degree	0.041*	0.038*	0.037*	0.014	0.009	0.009	–0.014	–0.019	–0.016	0.019	0.016	0.016
Employment												
Working	0.012	0.001	0.000	0.025*	0.028*	0.028*	0.016*	0.016*	0.013	0.020*	0.018*	0.017*
Dependency Status												
Independent	–0.024*	–0.002	0.003	0.028*	0.024*	0.026*	–0.001	–0.003	–0.006	–0.022	–0.019	–0.019

TABLE 3 (*Continued*)

SET/Variable/ Measures	Low-Income			Lower-Middle-Income			Upper-Middle-Income			Upper-Income		
	Step 1	Step 2	Step 3	Step 1	Step 2	Step 3	Step 1	Step 2	Step 3	Step 1	Step 2	Step 3
	Init Model	Tuit & Aid	House & Food	Init Model	Tuit & Aid	House & Food	Init Model	Tuit & Aid	House & Food	Init Model	Tuit & Aid	House & Food
COLLEGE CHOICE												
Fixed Costs												
Financial aid	–0 020	0 017	0 022	–0 018	0 018	0 017	0 011	0 035*	0 036*	0 026	0 035*	0 036*
Low tuition	–0 016	–0 030*	–0 029*	–0 031*	–0 035*	–0 032*	–0 006	–0 010	–0 007	0 021*	0 018*	0 017*
Low tuition/fin aid	–0 032*	–0 005	–0 005	–0 004	0 010	0 012	0 004	0 012	0 014	0 045*	0 045*	0 044*
Control Costs												
Low living costs	0 023	0 023	0 031*	–0 012	–0 022	–0 019	–0 006	–0 014	–0 015	–0 049*	–0 062*	–0 063*
Could work	0 034*	0 029*	0 028*	0 003	–0 007	–0 013	0 016*	0 013*	0 008	0 006	0 003	0 002
Living c /work	0 032*	0 027*	0 031*	0 007	–0 002	–0 004	–0 005	–0 012	–0 017	–0 001	–0 005	–0 009
COLLEGE EXPERIENCE												
Attendance												
Four-year	–0 040*	0 042*	0 042*	–0 028*	0 041*	0 043*	–0 042*	0 011	0 013*	–0 004	0 015	0 019*
On campus	–0 049*	0 008	0 029	–0 053*	0 009	0 046*	–0 049*	–0 001	0 045*	–0 014	0 010	0 035*
Full-time	–0 122*	–0 029*	–0 022	–0 146*	–0 060*	–0 054*	–0 108*	–0 056*	–0 049*	–0 139*	–0 098*	–0 093*
Year in College												
Sophomore	–0 000	0 008	0 011	–0 043*	–0 039*	–0 040*	–0 004	0 000	0 002	0 008	0 012	0 015
Junior	0 021	0 029*	0 032*	–0 015	–0 014	–0 010	0 015*	0 018*	0 021*	–0 007	–0 003	–0 000
Senior	–0 021	–0 024	–0 018	–0 035*	–0 046*	–0 046*	–0 015	–0 018	–0 012	–0 067*	–0 066*	–0 057*
Grades												
Below C	0 066*	0 063*	0 063*	0 071*	0 067*	0 067*	0 054*	0 050*	0 049*	0 037*	0 034*	0 036*
C average	0 037*	0 032*	0 033*	0 037*	0 036*	0 038*	0 010	0 007	0 009	0 016	0 013	0 013
A average	0 050*	0 045*	0 048*	0 034*	0 029*	0 029*	0 005	0 001	0 000	–0 038	–0 044	–0 046
None reported	0 065*	0 064*	0 065*	0 045*	0 043*	0 044*	0 040*	0 040*	0 040*	0 035*	0 035*	0 035*

TABLE 3 (*Continued*)

SET/Variable/ Measures	Low-Income Step 1 Init Model	 Step 2 Tuit & Aid	 Step 3 House & Food	Lower-Middle-Income Step 1 Init Model	 Step 2 Tuit & Aid	 Step 3 House & Food	Upper-Middle-Income Step 1 Init Model	 Step 2 Tuit & Aid	
ASPIRATIONS									
Vocational	0 008	0 003	–0 001	0 058*	0 055*	0 054*	0 032*	0 033*	
Some college	0 008	0 012	0 007	0 017*	0 017*	0 015	0 019*	0 021*	
Master's	–0 065*	–0 057*	–0 051*	–0 045*	–0 038*	–0 035*	–0 021*	–0 014*	-
Advanced	–0 062*	–0 048*	–0 048*	–0 110*	–0 085*	–0 077*	–0 050*	–0 025	-
FINANCIAL VARIABLES									
Fixed Costs									
Grants $		–0 036*	–0 035*		–0 007	–0 005		–0 006	-
Loans $		–0 028*	–0 023*		–0 012*	–0 007		–0 002	-
Work Study $		-0 014	–0 013		–0 155*	–0 156*		0 003	-
Tuition $		–0 158*	–0 156*		–0 187*	–0 185*		–0 101*	-
Control Costs									
Housing/food $			–0 035*			–0 050*			-
MODEL STATISTICS									
Baseline P	0 896	0 896	0 896	0 895	0 895	0 895	0 916	0 916	
Model "N"	4,862	4,862	4,862	7,647	7,647	7,647	10,120	10,120	10,1
Somer's *D*	0 529	0 633	0 651	0 518	0 633	0 652	0 539	0 635	
R_L^2	0 154	0 224	0 235	0 141	0 198	0 212	0 141	0 187	
–2 Log L	3390 2	3109 7	3066 6	5616 7	5240 5	5152 4	6394 4	6057 7	59
Model X^2	618*	899*	942*	920*	1296*	1384*	1053*	1390*	
DF	35	39	40	35	39	40	35	39	

*= $p < 0 05$

costs. However, Latinos in the upper-middle-income group were consistently more likely to persist, across all three steps of the model Because there was no apparent interrelation with financial variables (tuition, aid, and living costs) added in steps 2 and 3, middle-class Latino families apparently place a great value on postsecondary educational attainment

It is especially interesting to note that low-income Asian Americans were less likely to persist Indeed, low-income Asian Americans were about 14 percentage points less likely to persist than other-race (mostly white) students Although there is a widely held perception that Asian Americans are more likely to achieve academically than other ethnic groups, this generalization does not hold across income groups Clearly there are some poor Asian American students who have limited opportunities for higher education This may be especially true for newer immigrants from Southeast Asia For example, in a recent persistence study of students in the State of Washington,[12] Asian Americans and African Americans were less likely to persist when student aid was inadequate, they had the same probability of persisting when aid was adequate (St John, 1999) In addition, upper-middle-income Asian American students were 3 to 4% less likely to persist than other ethnic groups, an effect that became significant and negative only after tuition was controlled for in step two Other analyses using the nexus model have indicated that although Asian students attended higher-cost colleges than other groups, they were also less responsive to tuition charges (Paulsen, St John, & Carter, forthcoming) Given these insights, we conclude that the findings observed for Asian Americans in the upper-middle-income group are artifacts attributable to these ethnic differences in college choice and price response

The finding that low-income women were less likely than men to persist is quite interesting This finding may be related to the labor market and the fact that attaining at least some college is especially important for adult women seeking to support a family Lewis, Hearn, and Zilbert (1993) found that only six months of postsecondary vocational education results in a statistically significant and substantial increment to income, especially for women, and for low-income women, in particular All this is to say that the opportunities to increase income due to only "some" postsecondary education, coupled with the demands of supporting a family—due to the prevalence of single-female-parent households among low-income families—might function, in combination, to motivate low-income women to be less likely than men to maintain continuous enrollment, because they have met their immediate goals[13] These findings are especially noteworthy, given subsequent changes in welfare policy, which have encouraged more women to attain technical training and seek employment Future studies should consider whether the patterns observed here hold in a new context in which welfare policies promote some kind of postsecondary educational experiences

The only other time that gender was significant was in the final step of the model for upper-income students, after tuition, aid, and living costs had been added There is no reason to suspect that issues of cost are problematic for these students, and it is unlikely that the need to find work in response to the job market is as important, or is important for the same reasons, for upper-income women as they would be for their low-income counterparts Clearly, upper-income women face a different set of choices, and their educational choices may be less influenced by financial factors This area merits further investigation and might be profitably studied by examining gender differences in the financial nexus

The result that low-income students whose mothers had a college education were more likely than students whose mothers had only a high-school education to persist also merits attention Clearly, for low-income students, having a mother with a college degree had a motivational value regarding persistence in college Indeed, low-income students whose mothers had a college degree were 4 percentage points more likely to persist A comparable pattern emerged among upper-middle-income (middle class) students, that is, students whose mothers had completed a masters or advanced degree were more likely to persist These findings would tend to support the view that relationships between mothers and their children are an especially important motivational force for both poor and middle-class students A related interpretation would be that poor and middle-class students whose mothers have college degrees, or postgraduate degrees, respectively, are guided by an upwardly-mobile habitus and aided in their pursuits by access to cultural capital that can help advance their educational and occupational status The finding that working class students whose mothers had not completed high school were less likely to persist in the second step only (after tuition and aid were entered, but before living costs were considered) suggests that such students may have attended colleges with somewhat lower net tuition costs, but found their living costs to be problematic

Among students in the elite class, the findings regarding mother's education were quite different and interesting Upper-class students whose mothers had some college, college, master's, or advanced degrees were 3 to 10% less likely than other students to persist Because these students have the most advanced educational aspirations (see Table 2) and the highest income of all four groups, it is unlikely that this pattern is the sign of a downwardly mobile habitus among elite-class students A more plausible explanation is that this pattern is evidence of the broader range of exit options available to elite-class students For example, upper-class students—compared to those in lower-income groups—have far more access to valued cultural and economic capital, whereby they would be more likely to stop out to take advantage of attractive opportunities for employment or travel during their college-going years Furthermore, even though these elite-class students are far more likely than others to attend high-status, high-cost colleges, these findings suggest that, depending on their performance and satisfaction with their experiences, some upper-class students may view their experiences as not worth the cost and elect to transfer to a less prestigious institution

Among the poor and middle-income classes, older students were more likely than younger students to persist in the first step only, before tuition and aid were considered, and among the elite class, older students were more likely to persist in the first and second steps, but not in the third, after living costs were considered Apparently, older students in the poor and middle-income classes were more likely than younger students to have attended colleges with lower net tuition costs, whereas older students in the elite class appear to have been more effective than younger students at managing their living costs

The fact that low-income students with no high-school and GED degrees were more likely than high-school graduates to persist in college is especially noteworthy, given that this variable was not significant for any of the other income groups Prior studies using NPSA87 have had similar findings (e g , St John et al , 1994), but they have not explicitly considered class differences This study adds substance to the interpretation advanced in these prior studies, that students who entered college through non-traditional routes are more motivated Apparently many low-income adults who did not complete high school subsequently learn that education is more important than they had previously thought Considered by itself, this finding might be viewed as evidence of one factor that may serve in some way to reverse the patterns of reproduction of social class in postsecondary education

Working-class students who were employed while attending college and those who were classified as financially independent were more likely than other students to persist across all three steps of the model These findings reinforce the notion that there are links between an orientation toward work and an orientation toward attaining a college degree for students in this working-class-income group Middle- and upper-class students who were employed while attending college were also more likely to persist However, the magnitude of the positive effect of employment was smaller for these groups than for working-class students And among middle-class students, the positive effect was significant only for steps one and two of the model, indicating that middle-class students who worked were also better able to manage their living costs Finally, although being financially independent had no effect on persistence among middle- and upper-class students, poor (low-income) students who were financially independent were less likely to persist in the first step, but not in the last two steps This indicates that tuition costs, net of aid, tended to be somewhat higher, or more problematic, for financially-independent, but low-income students One probable explanation for this is that such students—who were financially independent and applied for aid— received smaller aid awards than dependent students who demonstrated similar need, because of the Pell grant formula

College-choice variables The findings related to the effects on persistence of perceptions and expectations about costs at the time of college choice—that is, the college-choice variables—revealed some very interesting and distinct differences across the four income classes Regarding fixed-cost college-choice variables, only the middle- and upper-income students who chose their colleges because of the financial aid available were significantly more likely to persist More particularly, the availability of financial aid had a positive effect on persistence in steps two and three of the model, after tuition and student aid were controlled for This suggests that the positive effects of student aid were repressed in the first model, due to the negative effects of the tuition costs of attending, but were revealed in steps two and three This means that the positive effects of aid are indirect for middle- and upper-income students—that is, the positive effects of aid on persistence occurred as a result of the expectations and perceptions associated with the aid offer, rather than through the actual amount of aid itself We reach this conclusion because none of the actual dollar amounts of the student aid variables were significant in steps two and three, a prospect that is considered in more detail below Finally, as indicated in Table 3, poor and working-class students who considered the availability of financial aid as very important in their choice of college were no more or less likely than others to persist.

Poor students who chose a college because of low tuition—and not because of financial aid—were less likely to persist in the second and third steps, after tuition and aid (fixed costs) were entered, whereas working-class students who considered low tuition—but not financial aid—as very important in their college choice were less likely to persist across all three versions of the model The lack of a negative effect on persistence in step one for low-income students indicates that at least some students may have been successful in identifying and attending colleges with lower-than-average tuition costs However, in step two, tuition and aid are entered, showing an alarmingly high sensitivity to tuition, as well as financial aid that is clearly inadequate relative to tuition costs, a prospect that is discussed further below. Therefore, even below-average tuition charges may have been too much for these low-income students—who chose their colleges due to their concern for low tuition—to afford. Because such students also did not consider aid as important in choice of college, they may have been unaware of aid availability, which would have made even their lower tuition charges appear much more costly. For working-class students, the negative effect on persistence across all three steps indicates that even for those students who made special efforts to choose colleges with below-average tuition, such tuition costs may still have been too much for some working-class students to afford. One probable explanation for this is based on the related finding (addressed below) that students in the lower-middle-income group were more sensitive to tuition increases than any other income group. Another explanation is that these students viewed low tuition as very important in their choice of college, but they did not consider financial aid to be important. Such students may have been unaware of available aid, which could have made even below-average tuition appear more costly than for other students who did consider financial aid as very important.

For low-income students, choosing a college because of both low tuition and student aid was negatively associated with persistence only in the first step, before actual cost variables were entered. When tuition and aid were controlled for in step two, the negative effect was no longer present. The fact that tuition, grants, and loans each had direct, negative effects on persistence when entered in step two (discussed below) indicates an inadequacy of financial aid relative to tuition costs and explains the negative effect of choosing a college because of both low tuition and aid in step one. In combination, these findings indicate not only that perceptions and expectations of low tuition and high student aid influence persistence, but they also indicate an inadequacy of financial aid relative to college costs for low-income students.[14]

For upper-income students, the findings revealed a pattern that is quite the opposite of the pattern observed for low-income students. In general, only a relatively small percentage of upper-income students considered student aid or low tuition as very important in their choice of college (see Table 2). However, just as in the case of those elite-class students who chose their colleges due to the financial aid available, those who were concerned about low tuition or both low tuition and aid available, were also consistently more likely than others to persist across all three steps of the model. This is an understandable finding because upper-income students were far less sensitive to tuition than any of the other income groups and, unlike the case for lower-income students, results indicated that aid was adequate to cover costs for upper-class students (discussed below) But this is also an interesting finding, because even though wealthier students were not very responsive to college costs, they were still more likely to persist and attain their degrees when they gave serious consideration to the costs of college before they enrolled

Choosing a college because of low living costs was positively associated with persistence for low-income students only after the actual amounts of students' living costs were considered (step 3), indicating that some may have struggled to control their food and housing costs, but were ultimately more likely to have persisted due to their cost-consciousness However, low-income students who chose their colleges because they were close to work or because of both low living costs and being close to work were consistently more likely than others to persist across all three steps Apparently, such students were successful in their efforts to manage their income from their jobs and economize on their living costs Similarly, for middle-income students, choosing a college because it was close to work was positively associated with persistence before living costs were considered (steps 1 and 2) We expect that middle-income students who made their college choices so they could work were better able to manage their living costs In general, cost-conscious low- and middle-income students appear to have been careful planners regarding income from their work and control of their budgets In contrast, upper-income students who considered low living costs as very important in their choice of college were less likely than others to persist across all three steps Because the majority of these students (56%) attended private institutions, they may well have underestimated the expenditures they would have to make to support their social integration and related activities at such colleges

In general, these findings regarding the effects of fixed and controllable-cost college-choice variables reveal evidence of class-based differences in the ways students' perceptions and expectations about college costs impact their enrollment behavior And, particularly in the case of the effects of students' perceptions and expectations about the availability of low tuition and financial aid on their persistence decisions, would appear to operate as a basis for the reproduction of social class in our postsecondary system

College experience variables The effects of full-time attendance on persistence were similar for all four income groups Across all groups, the effects of attendance patterns on persistence were interpretable in terms of the costs associated with characteristics of attendance. That is, it costs more to attend a four-year college, live on campus, and attend full-time. Although attending full time was negatively associated with persistence across steps one and two, the impact of this variable diminished substantially once fixed costs were controlled for in step two, illustrating the substantial negative influence of tuition that is associated with full-time attendance. In step three, the effect of attending full time was no longer significant for low-income students, but continued to have a significant, negative effect on persistence for working, middle-, and upper-income students, thereby indicating the additional negative effect of living costs related to full-time attendance.

For poor and working-class students, attending a four-year college was negatively associated with persistence in the first step and positively associated with persistence in the second and third steps. This indicates that the negative effects of the higher costs associated with attending a four-year college were mitigated by the positive effects of the four-year college experience—an interrelation that is revealed in step two, when fixed costs are entered. A similar pattern was observed for middle-income students. Attending a four-year college had a negative effect on persistence in step one, a neutral effect in step two, and a positive effect in the final step. For working- and middle-class students, the effect of on-campus residence on persistence was negative in step one, neutral in step two, and positive in step three. These findings indicate both the positive effects of on-campus residence on persistence as well as the way such positive effects were repressed by the net tuition and living costs associated with on-campus residence in steps one and two. Interestingly, upper-class students—like working-class and middle-class students—who lived on campus and/or attended four-year colleges were more likely to persist in the final version of the model. This indicates that the positive effects of traditional residential campuses were repressed by the costs associated with attending these colleges. However, these variables were not negatively associated with persistence in the first version of the model for upper-class students, as they had been for middle-class, working-class, and poor students. Thus, the repressed negative effects of costs were less substantial for upper-class students than for middle-class, working-class, or poor students. Finally, it should not go unnoticed that for poor and working-class students, attending a four-year college has positive impacts on persistence that are more than twice as large as those for middle- and upper-income students—that is, when they can afford to take advantage of these opportunities. Therefore, these findings represent evidence of another instance of class-based differences in the way students respond to the costs of college in their enrollment decision making and would appear to operate as a basis for the reproduction of social class in our postsecondary system

Students in all four income groups who had less than C averages and poor and working-class students with less than C or with C averages were more likely to persist than students with B averages One explanation for this is that institutional policies often make it difficult to return to school after leaving school with low grades and poor academic standing But this finding may also be due to the greater range of exit opportunities (e g , transfer) that are available to students with B averages The additional finding that poor and working-class students with A grades were more likely to persist than those with B grades is especially interesting One possible explanation might be that students with the highest grades (A grades) may be experiencing the greatest quality of academic integration, personal satisfaction, and even extra attention from the professors with whom they interact in their studies, which in turn, could lead to higher rates of persistence And opportunities for academic integration might well be more important for poor and working-class students, because they are the most likely to be of nontraditional age, married, living off-campus, attending part-time, working and financially independent Among poor and middle-class students, juniors were more likely to persist than freshman However, among working- and upper-class students, seniors were less likely to persist, a finding consistent with previous research using the NPSAS database (e g , St John et al , 1994)

Aspiration variables For working- and middle-class students, all of the variables related to postsecondary aspirations were significant in at least one version of the model Both working and middle-class students who aspired to complete vocational qualifications or some college were more likely to persist than those aspiring to a college degree across all three steps Furthermore, both lower-middle- (working-class) and upper-middle- (middle class) students who aspired to complete a master's or advanced degree were less likely to persist in step one, before costs were considered in steps two and three Indeed, these findings indicated that the set of aspiration variables had the inverse relationship with persistence that we would expect if we held conventional "middle-class" social-attainment assumptions And this inverse relationship appears to be related to college costs and affordability, that is, working and middle-class students who planned to attend over a longer period of time apparently felt they had to modulate their level of enrollment to constrain their expenses or debt [15] This conclusion is reinforced by the fact that the negative effects of aspiring to attain master's and advanced degrees were mitigated across the versions of the models When net tuition costs were controlled in step two, and when living costs were controlled in step three, the magnitude of the negative effects on persistence decreased or even became nonsignificant.

In contrast, among low-income students, aspiring to complete vocational qualifications or some college had no effect on persistence, however, those with long-term aspirations (master's or advanced) were significantly less likely to persist and apparently chose to attend periodically, rather than to maintain continuous enrollment The finding also appears to be related to the financial circumstances of poor students, because even though the negative effect was significant across all three steps, its magnitude decreased as costs were controlled for in steps two and three Finally, upper-income students who aspired to attain vocational qualifications and some college were more likely to persist than students who aspired to attain a college degree, whereas those who aspired to master's and advanced degrees were no more or less likely than others to persist Overall, the general pattern of findings for the elite-class students is opposite of that experienced by the poor students and may serve to reproduce social class in the postsecondary system The complete set of findings about the effect of educational aspirations illustrates how aspirations, costs, and educational choices interact clearly educational choices are influenced by the direct costs of education, and these influences vary by social class

Financial variables For all income groups, one or more of the financial variables—actual dollar amounts of fixed-cost variables, such as tuition, grants, loans, and work study, as well as controllable living costs, including housing and food expenses—had a substantial direct influence on persistence Regarding students' responsiveness to fixed-cost variables, two quite different patterns of response were observed—one exhibited by the poor and working-class students and the other experienced by the middle- and upper-class students Among poor and working-class students, tuition had an alarmingly high negative influence on persistence, with each thousand dollars of tuition differential decreasing the probability that the otherwise-average student would persist by about 16 and 19 percentage points, respectively In contrast, the tuition-responsiveness of middle-and upper-income students was much more moderate each thousand dollars of tuition differential decreased the probability that the otherwise-average student would persist by only 9 and 3 percentage points, respectively

For poor students, grants and loans—but not work study aid—were negatively associated with persistence, indicating both forms of aid were inadequate even after living costs were considered in step three For working-class students, grants were not negatively associated with persistence, but loans and work study definitely were Work study, a form of aid that generally had a lower hourly pay rate than other employment was negatively associated with persistence across the last two versions of the model The more hours working-class students had to work at these low, on-campus pay rates, the less likely they were to persist, perhaps because of the attraction of higher rates of pay available in off-campus employment However, loans were negatively associated with persistence only before living costs were considered This finding indicates that loan aid was inadequate to cover even tuition costs (step two), and working-class students faced a difficult trade off they were essentially forced to borrow more to pay their living costs if they desired to have continuous enrollment (step three) Thus, the new emphasis on loans in financial policy intensifies the problematic nature of college choice and persistence decisions for both poor and working-class students We suspect that these circumstance were upsetting the old equilibrium in academe—that is, the intrinsic value of attending classic undergraduate colleges (residential four-year colleges) was offset by the need to borrow large sums of money to afford these luxuries

In contrast, none of the student aid variables had direct effects on persistence for middle- and upper-class students Rather, for higher-income students, the effects of aid were mitigated through the students' expectations and perceptions of affordability at the time of college choice (manifested in the college-choice variables) As noted above, choosing a college because of student aid had a repressed positive effect in step one and a significant positive effect on persistence in steps two and three The neutral coefficients for financial aid variables indicate that the aid itself was just adequate or minimally adequate Interestingly, the positive effects of aid on persistence were a result of the expectations and perceptions associated with the aid offer, rather than through the actual amount of aid itself Finally, living costs had a direct negative effect on persistence across all income groups, but students' responsiveness to these costs were moderate in comparison with their sensitivity to tuition, the degree of responsiveness to living costs being substantially less than that for tuition, among all but the elite-class students [16]

Conclusions and Implications

The findings of this study inform our collective understanding of class differences in student choice processes Indeed, the current study illuminated group differences indicating that postsecondary education plays an important role in both perpetuating and breaking the pattern of class reproduction We consider the findings and their implications in two parts First, we consider how the findings contribute to the general understanding of the role of social class in postsecondary education We then consider how the analysis of the financial nexus contributes to our understanding of the role of college costs and financial policy in class reproduction Implications for future research, policy and institutional practices are included, as appropriate, in the discussion below

Patterns of Reproduction Social Class and Educational Opportunity

There were notable differences in the influence of attendance patterns, gender, high-school attainment, ethnicity, academic achievement and postsecondary aspirations across the income groups Indeed, the findings confirm that social class is far more complex than is communicated by hierarchical variables like socioeconomic status (SES) The SES measures used in sociological and economic research have grouped a number of concepts and issues related to family income and education into a single indicator that assumes a linear relationship between increased status and increased attainment The findings of this study suggest a much more complex pattern of social class and educational attainment and reveal some interesting ways in which our postsecondary system may serve as a medium in both the perpetuation and reversal of historical patterns of class reproduction in society

First, cross-class comparisons of descriptive statistics about educational attainment revealed that lower-income students are less likely than higher-income students to attend private colleges, four-year colleges, attend full-time, or live on campus In these and other ways, the social reproduction of the existing class-based distributions of cultural capital, economic capital, and other patterns of privilege in our society is apparent in the class-based patterns of participation in our system of postsecondary education

Second, based on logistic regression analyses, women who live in poverty were less likely than men to maintain continuous enrollment, a finding that was not evident for working- or middle-class groups For poor women, opportunities to increase employability and income by meeting more immediate, short-term postsecondary goals, along with the greater family responsibilities for women—due to the prevalence of single-female-parent households among low-income families—may work together to motivate low-income women to be less likely than men to maintain continuous enrollment These findings suggest that our postsecondary system may function, in part, as one medium through which the class-based constraints on the educational attainment of poor women are reproduced in society It is important that states provide a safety net for poor women with inadequate education. However, these findings are also especially noteworthy, given subsequent changes in welfare policy, which have forced women into the work place. Policies have led more women to attain short-term technical training and seek immediate employment. Future research should consider whether the gender-specific patterns observed here hold in a new context in which welfare policies promote some kind of short-term, postsecondary educational experiences, as illustrated in the expanding practices of one-stop centers.

Third, it was very interesting to find that poor people with nontraditional precollege educational experiences—those with no high-school degrees and GEDs—were more likely to persist than those with high-school degrees. If attaining at least some college has become the screening device for a decent job (Grubb, 1996), then students who have no postsecondary education are a step below those who do and have a hard time finding jobs that provide a livable wage. It appears that many low-income adults who did not complete high school later learn that education is more important than they had once thought. The findings of this study suggest that in such instances, the poor and undereducated are especially motivated to attain a college degree. Institutions should be more diligent in their recruitment of students who have worked so hard to overcome the daunting obstacles faced by the high-school dropout and thereby learned the lesson of the power of persistence. This finding might also be viewed as evidence of one way in which our postsecondary system may serve as a medium to reverse the patterns of class reproduction.

Fourth, the analysis of the choice-persistence nexus by social class produced interesting findings about the role of race and ethnicity in educational choice. African Americans in the poor and working classes—but not in middle- or upper-income groups—were more likely to persist than their white peers. Indeed, these findings support the argument that there is an African American habitus that promotes the acquisition of cultural capital related to personal affiliations with significant others and a community of caring that values postsecondary education (McDonough et al., 1997). Indeed, this may be another instance in which our postsecondary system, or as research suggests, our historically black colleges and universities in particular (Allen et al., 1991, McDonough et al., 1997), serves as a medium to reverse the historical patterns of class reproduction. These findings indicate the importance of increased federal and state government funding to invest in and support HBCUs in promoting educational attainment.

In addition, findings indicated that poor Asians Americans were less likely than other-race (mostly white) students to persist. This finding is inconsistent with the widely held perception that Asian Americans are more likely to achieve academically than other groups and indicates that some poor Asian Americans lacked some of the advantages and opportunities for postsecondary educational achievement frequently attributed to this group There is some research to suggest that this pattern may be characteristic of some of the newer immigrants from Southeast Asia (St John, 1999) In combination, these findings about race and educational attainment suggest that in future research it is important to begin thinking about race within class, rather than think of race and class as loose proxies for each other within broad, universalistic models

Fifth, cross-class comparisons of descriptive statistics about educational attainment revealed that poor and working-class students were more likely than middle- and upper-income students to earn A grades, but aspired to substantially lower levels of postsecondary educational attainment A disturbing manifestation of class reproduction is portrayed here the lower-income students are the most likely to receive A grades and would presumably be the most meritorious, yet they expect the least in terms of their aspirations for educational attainment, whereas the higher-income students are less likely to receive A grades, yet they expect so much more in terms of their aspirations for educational attainment The logistic regression analyses revealed more about the relation of these factors to educational attainment and how the relation varies by class First, regarding educational aspirations, whereas aspirations to attain master's or advanced degrees had no effect on the persistence of elite-class students, poor students who aspired to attain such degrees were less likely to persist This finding suggests another pattern of class reproduction and is apparently the product of the differing habiti of poor and elite-class individuals which differentially shape students' expectations, attitudes, and aspirations (McDonough et al , 1997) A more equitable and widespread dissemination of accurate information about postsecondary opportunities may be one way of expanding the access to new forms of cultural capital for low-income students The success of the Indiana Postsecondary Encouragement Experiment in terms of increasing the rates of participation in higher education among minorities and low-income students offers a compelling argument for similar investments in cultural, and therefore subsequently, economic capital, in other states (Hossler & Schmitt, 1995)

Although receiving A grades had no effect on the persistence of elite-class students, poor students who earned A grades were more likely to persist Academic performance has been well established as one of the most important indicators of academic integration, which promotes persistence (Pascarella & Terenzini, 1991) It seems plausible that opportunities for academic integration might be more important for poor and working-class students, because they are more likely to be of nontraditional age, married, living off-campus, attending part-time, working, and financially independent. Perhaps institutions should make special efforts to guarantee that opportunities for regular faculty-student interaction and academic counseling are plentiful and readily accessible to their poor and working-class students, who are likely to perceive these important opportunities to be less accessible to them—because they necessarily spend less time on campus—than to the middle- and upper-class students who are more likely to live on campus.

The Financial Nexus and Class Reproduction

In general, the findings of this study not only confirm that it is important to discern diverse patterns of student choice, particularly by social class, but they also indicate that the new financial conditions in higher education have had differential effects across social classes. Clearly, there are two ways that college costs influence postsecondary opportunity: directly in response to prices and subsidies, and indirectly through perceptions and expectations of the affordability of college costs. The findings of this study regarding the direct effects of college costs follow a pattern that is consonant with prior research on the economics of higher education: low-income and lower-middle-income students are far more responsive to prices than students from upper-middle- and upper-income families. However, the role of expectations or perceptions about college costs has not been adequately examined in prior research on higher education finance. As illustrated by the results of this study, when we examine the effects of college costs using the financial nexus model, we achieve a fuller understanding of the effects of students' expectations and perceptions about college costs on both their college choice and persistence decisions. The findings of this study clearly indicate that future research on student persistence should explicitly consider the important effects of students' prematriculation perceptions and expectations about college costs.

The findings of this study revealed clear and substantial class-based patterns of enrollment behavior related to students' perceptions and expectations about college costs. Indeed, low- and high-income students engaged in nearly opposite patterns of behavior. When it comes to the fixed costs of tuition and aid, middle- and upper-class students experience positive effects on persistence when they choose their colleges because of the availability of low tuition and financial aid. In stark contrast, poor and working-class students experience either negative or no effects on persistence when they choose their colleges because of the availability of low tuition and financial aid. However, when it comes to controllable costs, only low-income students who choose their colleges so that they will be able to control their living costs and work while attending are more likely than others to persist. In contrast, upper-income students who choose colleges to have lower living costs are less likely than others to persist, apparently because they underestimate the much higher levels of living costs associated with attendance at the prestigious and costly institutions most often attended by elite students. In summary, when it comes to the fixed costs of college—tuition, net of financial aid—cost-conscious college choices among the middle- and upper-income students promote persistence, whereas cost-conscious college choices among the poor and working-class students tend to reduce their likelihood of persistence in college. These findings constitute evidence of class-based differences in the ways students perceive and respond to college costs in their enrollment behavior, and these differences, particularly in the case of expectations about the availability of financial aid and low tuition, would appear to operate as a basis for the reproduction of social class in our postsecondary system.

Lower-income and higher-income students also respond in very different ways to the direct effects of the actual dollar amounts of college costs (tuition and aid) in persistence decisions. In particular, the responsiveness of poor and working-class students to tuition increases is alarmingly high—reducing their probability of persisting by 16 and 19%, respectively, per $1,000 increment in tuition. Again, in stark contrast, middle- and elite-class students are much less sensitive to tuition increases: each $1,000 increment in tuition reduces their probability of persisting by only 9 and 3%, respectively. Our findings indicate that financial aid was not adequate to support persistence for lower-income students.

Financial aid for low-income students, in the form of both grants and loans, had a direct negative effect on their persistence decisions, indicating that both forms of aid were inadequate. Among working-class students, both loans and work-study aid had negative direct effects on persistence. The more hours working-class students worked in low-paying on-campus work-study jobs, the less likely they were to persist, most likely attracted by the higher pay of off-campus employment. Working-class students who were financially independent and employed off-campus were more likely than others to persist in college. It appears that work-study aid, in its present form, is not an effective form of financial aid for working-class students. In addition, for working-class students, loan aid was inadequate to cover even tuition costs, and such students faced the difficult decision of having to take out additional loans to cover their living costs in order to continue their enrollment. In contrast, none of the financial aid variables had direct effects on the persistence of middle- or upper-income students, indicating that aid for such students was adequate to cover their college costs Living (housing and food) costs had a direct negative effect, of moderate size, on persistence for all income groups Finally, the findings of this study indicated that in spite of the positive effects of attendance at four-year residential colleges, the rising tuition and living costs of attending such institutions were problematic for students across all income groups

The high-tuition, high-loan environment is clearly problematic for poor and working-class students For such students, the cost of tuition, net of available aid, is clearly not affordable More to the point, it is precisely those poor and working-class students who are aware of the problematic nature of college costs, those who self-identify and profess that they are financially at risk in the face of such costs and who intentionally select the colleges they attend according to the availability of financial aid and low tuition, who are the least likely to elect to reenroll at the time of a subsequent persistence decision In other words, college costs take a toll on the poor and working-class students, in spite of their careful planning

It appears that institutions themselves are not effectively identifying these students who are financially at risk Among poor and working-class students, there appears to be a substantial amount of unmet need that is not being accurately identified or satisfactorily met by existing federal, state and institutional policies and practices There is a compelling need for new and more accurate methodologies for assessing all aspects and components of students' financial need Simply put, the high-tuition, high-loan approach—not to be confused with an effective high-tuition, high-need-based-grant approach—to higher education finance does not appear to be working If appropriations to institutions from state and local governments continue to constitute a reduced portion of institutional revenues, standards of equity would require that adequate amounts of need-based grants to offset tuition increases be targeted for, and made accessible to, students with demonstrated need—that is, accurately assessed by improved methodologies—through federal, state, and institutional programs and policies Adequate funding for access to postsecondary education is still not an entitlement for poor and working-class students in our nation It appears that our postsecondary system may continue to serve as an instrument of class reproduction until these challenges are directly and effectively addressed

Notes

[1] We describe the refinements to the model and our reasons for making these refinements in the endnotes in this section

[2] "Others" includes primarily Caucasians, who represent over 80% of the entire

NPSAS sample, plus Native Americans and Alaskan Natives, who account for only 0.7% of the sample.

[3] When available, it is desirable to have variables related to high-school achievement (grades or achievement test scores). However, because these measures can be highly correlated with college grades, their absence in the NPSAS database is not considered very problematic.

[4] In the previous model, students in private colleges were compared to students in public colleges (St. John et al., 1996). However, because attending private colleges and tuition were highly correlated in the samples used in this study, we decided to leave this variable out of this version of the model.

[5] This represents one of the refinements of this version of the financial nexus model. In the original version of the model, students with no reported grades were combined with students who had B averages (e.g., St. John et al., 1996). The approach used here for coding students with no reported grades produces a more refined model which both retains all students without reported grades in the sample and avoids co-mingling these observations with those B-average students that constitute the majority of students in the comparison group.

[6] Each of these variables was divided by 1,000 in the logistic models.

[7] This represents a third refinement of the previous model. In previous studies, separate measures for housing and food costs were used, however, those students with no reported living expenses were inadvertently coded as having zero expenses—which could have introduced some measurement error into the data. To correct for this, in this model we used a composite measure of living costs for food and housing developed and calculated by the National Center for Education Statistics as part of the NPSAS87 database. Fortunately, results using the NCES composite measure are highly consistent with those obtained in previous studies— that is, living costs had a significant and substantial negative effect on persistence in both the current and previous studies.

[8] Although NPSAS87 oversampled students with various characteristics—such as those from minority groups—in order to study trends in costs and aid for such groups, we used the weights computed by NCES to redistribute the observations so they were once again representative of the distribution in the overall population (NCES, 1993, p. 3).

[9] Year-to-year persistence is complicated by the fact that students are more likely to transfer between academic years. Several researchers have noted that within-year persistence is an appropriate outcome for persistence research (e.g., Carroll, 1987; St. John, 1999).

[10] Students living off campus probably have somewhat more opportunity to control, or constrain, their living costs in the areas of housing and food, when compared to students living on campus. However, even though many students who live on campus must address constraints based on housing contracts and meal plans, students can establish on-campus living arrangements that do allow for some control over such costs, especially for those who select no meal plans or alternative meal plans that permit students to economize on their expenses.

[11] The R_L^2 statistic is computed as follows: $R_L^2 = \{(\text{model } X^2) / [(\text{model } X^2) + (-2 \text{ Log L})]\}$.

[12] Washington has a high percentage of Asian Americans, many of whom are recent immigrants from Southeast Asia.

[13] Being male was significant and positive at a 0.05 level in the first and third models, but barely slipped (0.001) below this level of significance in step two. Therefore, among low-income students, males were more likely to persist than females.

[14] We reach this conclusion because of the findings about the impact of fixed prices, as discussed below.

[15] We reach this conclusion about debt because of the findings about student aid below.

[16]Because we have not emphasized the "goodness-of-fit" of the models in our interpretations of results, we note here that all such measures provide evidence to support the predictive "quality" of the models For example, as shown across all models in Table 3, the model chi-square statistics were significant at the level of 001 for every step in every model estimated in this study And other goodness-of-fit measures—such as the Somer's *D* and R^2_L—ranged from 65 to 70% and 21 to 29%, respectively, for the final versions of each model

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Peter D. Eckel

Decision Rules Used in Academic Program Closure

Where the Rubber Meets the Road

The "economic fundamentals" for many American colleges and universities have changed, creating a new playing field with a different set of fiscal rules (Breneman, 1997; Massey, 1994). States are allocating less money, federal research dollars are drying up, and the tuition-paying public is adverse to large tuition increases, all while higher education costs are increasing (Breneman, 1993; Hovey, 1999; O'Keefe, 1987). At the same time, those paying public higher education's bills—taxpayers, state legislatures, and tuition-paying students and their families—are demanding high quality and more from their investments, and they are increasing their scrutiny (Harvey & Immerwahr, 1995; Haworth & Conrad, 1997). The demands of the increasingly influential market to do new things and to set different priorities are difficult to meet without the extra cushion of uncommitted resources that was available in the past (Levine, 1997). Many suggest that higher education's programs are too costly and out of date and that institutions cannot continue to offer such expansive ranges of programs.

As intentional strategies, more and more institutions are adjusting academic priorities and, in many cases, closing academic programs. Recent high profile closures occurred at the University of Chicago, St. Olaf College, and Auburn University. Program discontinuance is a "necessary adaptive mechanism" (Dougherty, 1979, p. 1) in organizations that are constrained in the range of ways they can increase or reallocate their

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Peter D. Eckel is the assistant director of Kellogg Projects on Institutional Transformation at the American Council on Education.

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fiscal resources, such as universities, hospitals and government agencies (Behn, 1988, Hardy, 1987, Pettigrew, Ferlie, & McKee, 1992). Eliminating select programs may help ensure organizational health.

Program discontinuance is a difficult decision to make in higher education, because the changes can be emotionally charged (Dill & Sporn, 1995), faculty can lose their jobs and have their life's work interrupted (American Association of University Professors, 1995), and the cuts have the potential to threaten institutions' core values and alter institutional identities (Dougherty, 1979, Melchiori, 1982). Unlike other types of decisions in higher education, such as a new curriculum or a revised endowment investment plan, program closures send "shock waves through the university community" (Hardy, 1990, p. 317). They create inner turmoil and stress among those involved and affected by the outcomes (Gumport, 1993), and draw the attention (and passions) of administrators, faculty, and trustees (Dougherty, 1979, Melchiori, 1982).

When institutions have to make tough choices, prioritize among departments, and close academic programs, by what criteria do they make this decision? What characteristics are considered when institutions must decide which programs to keep and which to close? The purpose of this study is to understand the criteria used by institutional leaders to identify academic programs for termination. The study adopts a dual framework from limited rational choice theory to understand this decision process.

Conceptual Framework: Program Discontinuance and Decision Rules

The most common portrayal of organizational decision making is one of limited rational choice, where decision makers identify alternatives, explore consequences, and make choices based upon a set of decision rules that differentiate consequences (March, 1994, Pennings, 1986, Pfeffer, 1982). Decisions are made in order to act and to bring about desirable results. This is a logic of consequence (March, 1997). Limited rational choice suggests that there is a relationship between information, criteria, and decision outcomes, and it has been shown to be used in retrenchment decisions (Ashar & Shapiro, 1990). The key questions from this decision-making framework are: What acceptable actions are possible? What future consequences might follow each alternative? How valuable are the various consequences? What decision rules are used to select among alternatives? (March, 1994)

Limited rationality theory suggests that not all alternatives are considered. "Instead of calculating the best possible action, they search for an action that is 'good enough'" (March, 1994, p. 8–9). In other words, decision makers look for options that satisfy some minimum threshold of acceptability (Simon, 1986), and thus "intendedly rational behavior is behavior within constraints" (March, 1988, p 270) These constraints, such as the difficulties of anticipating every possible outcome and the unlikelihood of considering all alternative and available information, simplify the decision-making process (March, 1994, March & Simon, 1992, Perrow, 1986) The implication for program discontinuance is that all programs are most likely *not* under consideration That said, which are the potential targets, and how do institutional decision makers differentiate among feasible choices?

The intended (but not always realized) purpose of program discontinuance is to strategically reshape an institution by internally reallocating resources (Levine, 1997, Slaughter, 1995) "Programs should be measured with an eye toward their relative value, so that reallocation can be facilitated" (Dickeson, 1999, p 18) The "relative values" used to prioritize various programs in times of retrenchment primarily center upon maximizing program quality and containing costs while considering mission centrality (Gumport, 1993, Slaughter, 1993, 1995)

Dickeson (1999) suggests the following ten criteria in his advice to academic leaders (1) history, development, and expectations of the program, (2) external demand for the program, (3) internal demand for the program, (4) quality of program inputs and processes, (5) quality of program outcomes, (6) size, scope, and productivity of the program, (7) revenue and other resources generated by the program, (8) costs and other expenses associated with the program, (9) impact, justification, and overall essentiality of the program, and (10) opportunity analysis of the program (p 54) The decision rules he suggests are economic (demand, revenue, and costs), quality, and centrality

Yet, the decision rules for identifying programs for closure are most likely not straightforward and based upon the decision rules of cost, quality, and centrality (Gumport, 1993) For example, Slaughter (1995) argues that retrenchment decisions are made based on patterns of wealth and power and are market dependent Because of the history, expectations and norms of collegial decision making (Bess, 1988, Birnbaum, 1988), high stakes decisions such as these require commitment from numerous stakeholders, specifically from the faculty (Birnbaum, 1992, Rosovsky, 1990) Broader retrenchment decisions, as well as program termination decisions, can become extremely political (Hardy, 1990, Pfeffer & Salancik, 1980) as faculty most likely will be involved in the decision-making process that identifies the departments of their colleagues, and possibly their own units, as targets for closure Thus, cost, quality, and centrality might make sense as the logical decision rules for identifying programs for closure, but they might not generate the needed faculty commitment necessary to implement the decisions As Hardy (1990) notes, "it is one thing for central administrators to decide on the principle of selective cutbacks, it is another to actually carry them out" (p 316)

Within the limited rationality framework, an alternative perspective may help us understand the criteria used in identifying programs for closure Brunsson (1982) suggests that organizations face two problems in decision making one, to choose the right thing—*decision rationality*—and, two, to get things done—*action rationality* His argument asserts that decisions can be made based upon rational criteria but yield little action, or they can be made "irrationally" but take into consideration cognitions, motivations, and commitments that lead to action "Since decision processes aim at action, they should not be designed solely according to such decision-internal criteria as the norms of rationality, they should be adapted to external criteria of action" (Brunsson, 1982, p 32) Irrational foundations for decisions may not lead to the "optimal" outcome in an abstract sense, but they abide by other criteria, such as involvement or historical precedence, that accomplish the task The central issue in action rationality is one of efficiency—how can decisions best be carried out—rather than one of effectiveness (Gladstein & Quinn, 1985, Pfeffer & Salancik, 1978)

The action rationality perspective challenges the common wisdom associated with decision rationality Rather than thoroughly exploring available options, weighing consequences considering alternatives, and choosing the option that optimizes results, action rationality seeks information that supports particular palatable alternatives and analyzes these in terms of a narrow range of desired results that people will support, it is dominated foremost by the desire to implement and to act (Brunsson, 1982; Gladstein & Quinn, 1985) The logic of order is different The process is not first about identifying the best alternatives and then gaining commitment, but of identifying alternatives essential to obtaining support for action

In program discontinuance, the decision rationality criteria said to be used to make the choice—such as eliminating the weakest programs or the most costly—might not be the needed (action rationality) criteria if programs are actually to be closed Frequently high stakes decisions have to give the *illusion* of doing the right things (Ashar & Shapiro, 1990, March, 1994) while using alternative decision rules

Research Questions

This study sought to better understand from an organizational perspective, when the rubber meets the road and decisions have to be made about which programs to close and which to support, what decision rules are invoked? To what extent did the decision rules reflect decision rationality or action rationality?

Slaughter (1993) raised similar questions in her study of retrenchment, but she adopted a rule-based sociological framework of wealth and power (neo-Marxist) Her framework is grounded in the assumption that rules in which outcomes are shaped by a logic of appropriateness guide decisions (March, 1994) This study adopts an alternative conceptual framework, grounded in the assumption that actors within organizations have the flexibility to make choices to create autonomous and preferred outcomes, a logic of consequence To make the distinction between paradigms, March (1997) quotes Duesenbery (1960, p 233), who said, "Economics [and by analogy psychology] is all about how people make choices, sociology [and by analogy anthropology and political science] is all about how they don't have any choice to make" This study adopts the former assumption, Slaughter's the latter How compatible are the results suggested by different frameworks? By exploring complex organizational phenomena through multiple conceptual lenses, a more nuanced understanding may emerge (Van de Ven & Poole, 1995)

This investigation is a post hoc analysis from a larger study of program discontinuance (Eckel, 1998) where the discontinuance process was found to involve three sets of criteria (1) the stated criteria offered to decide among choices, (2) criteria used to remove programs from a list of potential targets, and (3) criteria used to identify the actual closures

Method

This study adopted a multi-site case study method to address the research questions, because its purpose was to understand a complex process phenomenon that could not be quantified or controlled, and so that cross-site comparisons could be made (Herriott & Firestone, 1983, Yin, 1994)

To be eligible for this study an institution (1) must have discontinued academic programs within the last seven years that had not been reinstated, (2) was classified as a Research I or II university, and (3) was accessible The institutions—the University of Maryland at College Park (UMCP), Oregon State University (OSU), the University of Rochester (UR), and Kent State University (KSU)[1]—were selected from a list of 22 universities generated from searches of *The Chronicle of Higher Education*, *Academe*, *Trusteeship*, and phone calls to three national associations UMCP and OSU terminated degree programs and dismantled the units offering those programs, and KSU and UR discontinued degrees but kept intact the units offering those degrees (A distinction hypothesized to be important in the original study) The specific programs closed at each institution are listed in Appendix A

I interviewed between 11 and 16 individuals from each institution, including administrative and faculty decision makers and individuals from the affected units The interviews, using open-ended questions, focused on the processes through which institutions closed academic programs In the interviews, I placed specific emphasis on the rationale for the closures, the roles of leaders, shared governance and external influences in the discontinuance process, and the effects of the closures on the institution The specific interview question driving this inquiry was On what basis did the institution decide to cut particular programs? Interviews were key data sources because in studying organizational change qualitatively, "researchers are in the perspective business" (Pettigrew, 1995, p 107) They must seek out and listen to different stories that help create a picture of what occurred, how it occurred, and why Because this research sought to understand decision rules at work, the meaning assigned by participants became exceedingly important (Pettigrew, 1995, Weick, 1995) Interviews were tape-recorded and later transcribed Interviews ranged in length from 25 minutes to two and one-half hours, the average was one hour

In addition to interviews, written materials provided important information (Merriam, 1988) I reviewed meeting minutes, institutional reports, speeches, other relevant campus documents, and on-and off-campus newspaper accounts The documents were obtained primarily from the informants and through meetings with campus archivists Of particular importance were reports that outlined criteria or gave justifications for specific decisions

From the collected data, I drafted case reports that included all of the potentially relevant material collected from the site visit (Yin, 1994) This process included four steps (1) creating a working outline immediately following the campus visit based on information from the interviews, (2) reading each of the interview transcripts and original documents and noting where items and statements fit into the original outline, expanded the outline, or differed from it, (3) upon rereading each interview and document, placing text into the outline, and (4) going through a similar process for all of the other collected materials

Each case report contained all of the pertinent information about the institution's discontinuance process To identify the various decision rules working at each institution and to look for patterns across cases, I used two three-step data analysis processes, first for within-case analysis and then for cross-case comparison (Miles & Huberman, 1994). First, I identified and pattern coded the elements within each case relating to criteria and decision rules. Consideration was given to criteria mentioned in the literature (such as cost, quality, and centrality) and to criteria indicated in campus documents; other codes arose from the data. Second, I wrote memos linking similar bits of data across the various information sources (individual interviews and written materials) contained in each case report. Third, I developed a set of propositions outlining the decision rules used in each case. A second similar three-step process was carried out for cross-case analysis.

The research adhered to Yin's (1994) principles of rigor for case study research. I used multiple sources of evidence to create "converging lines of inquiry," constructed a data base of information for each case, and developed a logical chain of evidence that linked the analysis to specific instances in the case data base and to the research questions. To ensure trustworthiness, I engaged in peer debriefing and had informants read the case studies and comment (Lincoln & Guba, 1985).

Findings

The findings include three sets of decision rules that help understand the means by which programs were identified for closure: (1) the criteria stated by institutional leaders, (2) the decision rules used to reinstate programs earlier identified for closure, and (3) the decision rules used to close programs.

The Stated Criteria

Three of the four institutions (UMCP, OSU, and UR) identified criteria publicly as part of their discontinuance processes. KSU did not develop a formal list of criteria. The three sets of criteria are presented in Table 1. UMCP developed its criteria specifically for the closure process in a document called *Criteria for Planning*, which was created by the executive committee of the senate at the request of the provost. The criteria were developed in the form of questions to determine the worth of the program. Among these criteria were issues such as mission centrality, program quality, demand, duplication, and cost. The provost said:

> We gave the deans two target figures: What would you do if you were to cut 5% of your budget? What would you do if you were to cut 10% of your budget? . . . We couldn't attack the places where most of the money was, and in academic life, most of the money is tied up in academic salaries. I certainly didn't want to be involved in relieving people of their tenure. We tried to

> make this as economically motivated as possible, but we basically told the deans, and the deans responded, that the weakest programs were going to have to go And that you wouldn't get much money by closing X or Y was not going to be an excuse There were a couple of deans who were serious about suggesting that we eliminate tenure I didn't want to do it That process itself [identifying 5–10% in cuts] identified some weak units

At OSU, campus leaders relied upon a previously developed institutional policy, *Guidelines for Program Reduction* This document was created by a committee of deans and approved by the faculty senate as part of an earlier program discontinuance process One administrator said

> We began [as the result of earlier budget cuts] to develop guidelines to help us when it came time to identify those programs that would be eliminated This was chaired by a dean What they did, without identifying any programs, they said OK, these are the things that are important And without knowing or listing them in the right order, they were things like centrality to the mission of the institution, size of the program, measure of its degree of success, measure of its contribution to society in addition to higher education, and so on These are the guidelines that we used as we began to look at cutting programs out of the system

Among its criteria were issues one might expect, such as reputation and quality, duplication, and cost OSU's criteria also included issues such as centrality to the idea of a university, legislative mandate, service to the state, and a program whose elimination would "have a substantial negative impact on education and societal concerns in the state" Final criteria focused on past investments in programs, negative effects on underrepresented populations, and anticipated revenue loss The stated criteria were framed to justify *not* closing a program

The stated criteria at UR, called "global factors," were developed by the administrative leaders and announced when the dean unveiled the closure decisions These criteria included issues such as quality, costs, centrality to undergraduate education, and investment for distinctiveness They also included criteria not identified by the other institutions such as linkages among units, and the involvement of graduate students in undergraduate education (the institution sought to close only graduate programs), and faculty scholarship

All three institutions included cost, quality, and mission centrality in their list of stated criteria The only other common criteria were program uniqueness or duplication avoidance (UMCP, OSU) and opportunities for program distinction (UMCP, UR)

Two potential and unresolved problems of applying the stated criteria to decision making are important to note First, none of the three institu-

TABLE 1
Stated Criteria by Institution

Stated Criteria	UMCP	OSU	UR
Mission centrality	Is the program central in terms of growth, preservation and communication of knowledge, and instructional mission?	A program that is essential for every university	The centrality of the discipline and its current or projected importance to the undergraduate population
Quality	What is the quality and reputation of the program and faculty?	An objective evaluation indicates national or international reputation	The quality of faculty and graduate students
Cost	What are the costs of maintaining vs increasing its level vs savings resulting from reductions?	Cost is minimal relative to the tuition or income it generated	The costs of supporting the research/scholarly mission of the program
Contribution to region		OSU is better equipped than other organizations A substantial negative impact on education and issues in the state	
Demand	What is the current and projected importance and demand for the program?		
Legislative mandate		A program that exists because of legislative statute	
Uniqueness/ Duplication	Does the program duplicate work on campus or within the system?	A program that is the only one of its kind within the state	
Opportunity for distinction	Are there opportunities for comparative advantage because of time, location, or faculty talents?		A consideration of which disciplines are distinctive or could be with a modest investment
Impact on instruction and scholarship			Role of grad students in the delivery of undergrad instruction and in the conduct of faculty research/scholarship
Revenue		Elimination would result in substantial loss of revenue	
Past investment		A program that represents a substantial capital investment	

TABLE 1 (*Continued*)

Stated Criteria	UMCP	OSU	UR
Affirmative action/ underrepresented groups		A program that is staffed by members of groups protected by affirmative action	
Dependence of programs			Critical linkages that exist (or should exist) between scholarly or instructional programs across departments

tions addressed the issue of relative weights among their stated criteria In its public document explaining the decision-making process, the leaders of the UR process wrote, "the importance of these factors must be combined with an overall sense of what is best and most feasible given the limited resources for the College as a whole" (p 5, *Rationale for the Restructuring Plan*) The document used by OSU administrators did not indicate relative weights, although it did speak to the matter when it said

> It also should not be assumed that every stated criterion is of equal weight, or that a program will be "scored" by the algebraic addition of its positive and negative features Many of these criteria are partially or substantially subjective in character, and the balancing of these factors will involve value assumptions and policy choices These balances will be finally struck and policy choices made at the campus level only after opportunity to address them has been afforded all interested persons in accordance with established procedures (p 4, Guidelines for Program Redirection)

The ambiguity of the guidelines at OSU created some confusion among those not directly involved in making the decisions Said one faculty member from a closed program

> If anything that could have been communicated [better], it would have been what criteria are being used, because the rumor mill kind of ran rampant I imagine there were some objective criteria, but it was very unclear as to what the criteria were and how these programs were tapped based on those criteria If there were stated criteria for units then to put together their best case, that didn't happen

UMCP also did not address weighting in any of its documents That institution's first report, *Preserving Enhancement*, noted that the joint faculty-administration decision-making body "was acutely aware that many of its goals and criteria tugged the process of decision in conflicting directions" (p 8) These statements, found at all three institutions' prespecifying criteria, allude to the possibilities of other decision rules at work and that what is said and what is done might be two different things

The second curious element is the point at which the criteria were presented to the campus OSU had criteria previously established that were part of a formal institutional policy UMCP developed its criteria as an early step in the discontinuance process At UR, the process unfolded differently, as leaders announced the criteria at the *end* of the process once the decisions had been made, not at the beginning The criteria were summarized in the *Rationale for Restructuring*, a document distributed the same day of the announced closures

Criteria Used to Reinstate Programs

Exploring the criteria campuses used to *reinstate* programs slated for discontinuance provides more information about the decision rules at work UMCP originally identified programs that it subsequently removed from the list of affected units (nuclear engineering, hearing and speech, and library sciences at UMCP) UR reversed one decision (mathematics) The president at OSU prevented a recommended program closure (range management) from being acted upon

At UMCP, informants identified the following explanation for removing the three programs (1) the costs to dismantle the campus' nuclear reactor and the input of funds from another institution to sustain the nuclear engineering program, (2) the potential negative impact on the community prevented the university from closing the hearing and speech clinic, and (3) a satisfactory level of projected demand and the on-and off-campus support retained the College of Library and Information Science

At UR, strong political opposition from off-campus scholars and academic societies likely influenced the reversal of the decision to close the mathematics department, although not admitted readily by senior administrators Said one mathematics faculty member "The American Mathematics Society took this very seriously They regarded it as a very dangerous precedent for the profession Their view was that if Rochester could eliminate its graduate math program, then the following year maybe half a dozen other schools would follow suit" Some informants said that the curricular changes and a cost-neutral counter-offer made by mathematics, which aligned the department more closely with the goals of the institution's retrenchment plan, convinced the administration to reverse its decision The dean said

> We continued to get pressure from outside people, and we stood firm to that pressure We had some private meetings with several key faculty from the math department We were willing on some dimensions to bargain with them, but we couldn't bargain on the financial end of things The result was that they came up with a proposal, and we came back with a slightly modified proposal because it was not exactly financially neutral, and then we involved the Physics Department in this They were the only department after the fact that said that [cutting] math might not have been a good idea

At OSU, closing range management would have negatively affected Eastern Oregon University because it was a joint program The president said

> We have a program in range management, which is not only housed on this campus in Corvallis, but also on the campus of Eastern Oregon University We made the decision at the president's level that we were not going to do anything that would significantly damage another institution We tried to look at the integrity of the whole system rather than just our institution

In sum, institutions evoked a combination of the following decision rules to determine which programs to remove from the list of closures cost associated with closure, contribution to community, projected demand, negative effect on other institutions, off-campus political pressure, and alignment with institutional goals Patterns of criteria to reinstate programs across the four institutions included costs and external political pressure at UMCP and UR Table 2 compares the factors considered to reinstate or remove programs from consideration for closure at the three institutions

Closure Decision Rules

The final element to explore concerning decision rules are those that were seemingly used to identify programs for discontinuance[2] The OSU procedure forewarns of the possibility that decisions may be reached for reasons other than the stated criteria That document said

> Given the great diversity of academic programs, the stated criteria will not include all considerations that may be applicable to individual programs It is understood that such additional considerations are not rendered irrelevant by their omission and may be therefore considered (*Guidelines for Program Redirection*, pp 3–4)

The criteria used at UMCP to identify programs for closure were a combination of stated and unstated criteria A stated criterion was mission centrality, but the decision rule used focused on college mission, not institutional mission, because some of the programs closed were professional programs in non-professional colleges For example, urban studies and radio, television and film (professional programs) were in

TABLE 2
A Comparison of Criteria Used to Reinstate by Institution

Criteria to Reinstate	UMCP	OSU	UR
Costs	Too expensive to dismantle nuclear reactor		Cost-neutral arrangements
Contribution to community	Hearing and speech clinic		
Projected demand	Enrollment in LIS		
Negative effect on other institutions		Range Management at Eastern Oregon	
Political pressure	On-and off-campus supporters for LIS		Involvement of American Society for Mathematics, Negative Publicity in *NY Times* and *Chronicle of Higher Education*
Alignment with goals			Altered the courses for non-math majors, Developed tighter linkages with other units

the College of Arts and Humanities At the same time, none of the programs slated for termination were critical or core programs (central to the institution's mission) that informants believed the university must have, such as English or chemistry One faculty member from a closed program said:

> We were in a college, Arts and Humanities, which was obviously the cornerstone of a university like ours, but we were a professional program We were conditional, we weren't English, we weren't history, we weren't art Parenthetically, the other program that got closed [in the college] was another professional program

Other factors suggest that the closed programs at UMCP were politically vulnerable, revealing additional decision rules The units that were closed did not have champions among institutional leaders, they were programs where no one would (or did) come to their aid; and they lacked strong leaders One faculty member said

> I don't think it was articulated, but those units [closed] all had relatively weak leadership One unit was so badly divided that they couldn't even speak to each other The ones that survived had very strong leadership There was a certain coherence among the faculty They seemed to know what they wanted to do They seemed to be able to hold themselves together

Some of the units at UMCP had new or novice leaders The chair of a closed program said, "I was new to the job so I thought it was an exercise I didn't think they would really implement something as drastic as they were suggesting" Other programs were in political shambles with significant and long-term infighting A dean illustrated the lack of internal consistency and lack of unit leadership when he said

> In many cases, the programs shot themselves in the foot There was a program that demanded an external review and I allowed it to pick the external reviewers The reviewers came in and said the program you have sucks and what you ought to do is reconfigure it in a different direction, bring in all new people, which is the equivalent of saying shut it down Now it is very difficult for a faculty to argue on an evaluation that they demanded, with people they chose That was one of the programs that was closed It was a very small program

The criteria used at OSU were similar in many ways to those invoked at UMCP, and decision makers did follow some of their stated criteria For example, one stated criterion was a negative impact on education in the state, which prevented range management from being closed Unstated criteria also were used, many of these related to what one informant described as a "window of opportunity" Among the unstated decision rules was the lack of strong unit leadership two of the programs had new chairs, and the College of Education faculty had recently voted "no confidence" in the dean Other decision rules were low numbers of students and faculty

Another reason some units were identified was that they were not central to the college mission For example Journalism, a professional program in the College of Liberal Arts, was closed A faculty member from that college said

> Journalism became kind of a perennial target within the College of Liberal Arts primarily because it was a professional area within a liberal arts academic unit In a sense, it was a fish out of water It was seen as too professional or quasi-commercial If something had to be cut, then it probably ought to be that to maintain the purity of the unit

Another faculty member discussing the closure of another department (his own) said "[Our department] sits on the peripherals of both the College of Liberal Arts and the College of Science It was not a big loss to either one of the deans It was not a core liberal arts [program] or a core science"

Changes within the College of Education also provided a large "window of opportunity," as described by one person The faculty had recently voted no confidence in the dean The college was in the midst of a transition to a fifth-year professional model that effectively restructured teacher education and lowered the college's student credit hour generation, lessening the demand for full-time faculty It was intentionally reducing its faculty size, enrollment, and course offerings when the institution was seeking to reduce academic offerings According to one administrator in the College of Education

> It wasn't [just] that we had lost the dean, we had closed down our largest student credit hour generating program It was a college decision, but it was very much driven by the dean at the time In fact, the model that was developed was not really endorsed by the faculty That was part of the problem the dean had with the faculty He was mandating something, and they were telling him something else, and he was unwilling to compromise In fact, that probably caused the vote of no confidence in him and led to his demise

The decision rules used at UR were similar to those at OSU and UMCP Among the alternative criterion invoked was the units' lack of strong leadership A chair of a non-targeted department said "They were departments that were rather poorly led, and they were basically very vulnerable because they had not made a very good case for continuing They all had problems, absolutely no doubt about that Something had to be done because the status quo certainly was not the answer" Many of the department heads were new or the departments were lead by people who could not resolve internal squabbles They did not understand the severity of the problems or that they needed to take action to prevent the termination of their units A novice chair of a discontinued program said "Even before I was chair, and in my first year as chair, the handwriting in some ways was on the wall for this department I didn't read it that way immediately, I mean there were a lot of new things for me to read at that point" Many units also had low numbers of faculty and/or numerous faculty vacancies They also had low numbers of students and tended to be isolated from other programs

The reinstatement of the mathematics' doctoral program at UR is an informative negative case example where the decision failed because leaders did not adhere to workable decision rules Mathematics had (1) a sizable faculty, (2) strong leaders who were able to mobilize their faculty and off-campus supporters, and (3) faculty and the program graduates who were well connected to the national scientific community and able to create unwanted negative attention and gain political support Because UR leaders violated decision-making rules, they failed to close the department On paper, the criteria to identify mathematics for closure might have been well founded, but in action, it was fallible

Although KSU did not identify criteria publicly for program closure prior to its process, a set of decision rules was invoked for determining that one program, counseling psychology, would be closed over another, school psychology This decision was based upon the following criteria First, college administrators elected to retain the program more closely aligned with the college's child-focused mission—counseling psychology worked with adults in hospitals and clinics, while school psychology worked with children A college administrator noted "The Counseling Psychology people did nothing with schools They were less central to the mission Our mission priorities placed community agencies working with schools and families a priority They did not take that approach, it was very individual [and hospital based]" Second, Counseling Psychology had a lower number of faculty (one) who did not or could not garner support for his cause The program at one time had more faculty, but two took early retirement, one did not receive tenure, and another died Said one college administrator

> It was easier [to discontinue a program with one faculty member] than if there would have been a faculty with five or six left to move out We had only one person left You don't battle the same level of distention as if we went in to close out a program that had been as strong as it had been in quality with about a dozen faculty members That was why it was such a good time to do it

Third, the program also did not have a lot of students, nor did it have much support on campus One college administrator commented "Nobody cared enough to fight for it It was very isolated and unto itself

If you are a stand alone and you are small, say 50 students and 3 faculty, [it] doesn't make a very formidable force for preservation" Another said "It was a relatively small program with a limited number of alumni I think when we sometimes have larger programs with more alumni, they will get quite active in voicing to the provost or the president about the closure, and just that outcry from the public and alumni makes it too difficult a situation to eliminate a program" Fourth, a program similar to counseling psychology that existed across campus could house the remaining faculty member, and a nearby institution offered a counseling psychology program

In an unrelated, earlier process, the Theater doctoral program at KSU was terminated following a similar pattern The program was characterized by leadership troubles and internal conflict As one university administrator commented

> The directors [of the program] came and went, however, that is against the background of a school which had a tradition of internal division In a relatively brief period of time, we had three directors, all of whom were good, all of whom became subject to controversy within the unit [They] were blamed for everything from the weather to not giving certain elements [of the department] adequate support

The Theater doctoral program also had a low number of students (8) and faculty (2) It was a scholarly program in a professional school and thus not central to the college's mission, and it did not have administrative champions In fact, the provost thought closing the doctoral program might gain the institution some credit and favoritism in a Board of Regents initiated program to reduce the number of doctoral programs in the state

In sum, the common criteria across the four institutions included lack of strong leadership (UMCP, OSU, UR), little centrality to the mission of the college (not institutional mission) (UMCP, OSU, KSU), low numbers of faculty (OSU, UR, KSU), and low numbers of students (OSU, UR, KSU) Table 3 presents the decision rules used across the four institutions.

TABLE 3
A Comparison of Decision Rules Used by Institution

Suspected criteria	UMCP	OSU	UR	KSU
Lack of strong unit leadership	New leaders, vacant leadership positions	Vote of no confidence in education, weak leaders	Weak leaders, novice leaders	
Mission centrality in college, not institution	Professional programs in liberal arts colleges	Professional program in liberal arts college		Adult focus in child-centered unit, scholarly program in professional college (Theatre)
No champion	No support from top administration or college administration	No support from top administration		
Small number of faculty/ vacant lines		Faculty vacancies, low numbers of faculty in units	Faculty vacancies, low numbers of faculty in units	Only one faculty member (Counseling Psychology) Two PhD faculty (Theatre)
Small number of students		Low number of students	Low number of students	Only 8 students (Theatre)
No linkages with other units			Disconnected department	Disconnected faculty member
Other changes occurring		Moving to a 5th year model in teacher education		
Program duplication				Similar program on campus and nearby

The role of quality. Although quality, a frequently articulated decision rule, did not surface directly, evidence suggests that it was invoked as a filtering mechanism. For example, informants at both UMCP and UR said that although the institution used a process to identify programs for closure, a list of possible targets were known prior to starting the process. One informant from UMCP said

> If you were to do a poll on campus. Name the 10 likely departments that you think will be hit. I would bet that the seven that were closed would have appeared on 80% of the lists of people who named them at all. . . . And I think that is because anyone who sits in their college knows who the strong units are and who the weak units are, and that wasn't a big deal.

The provost said

> I think everyone understood that this was not a process that could be a top-down process. You could say from the top what the goals are and then let people work it out. So everybody immediately knew once we knew we were not going to go the equal distribution route . . . that decisions had to be made through a [campuswide] process. Even if with a little bit of thought you might have guessed how the decisions were going to turn out to be. You just could not say that out loud.

Leaders at UR also implied that they knew which programs would most likely be targeted before the process began. The dean said

> We pretty much knew a group of, lets say, 10 departments within which we were likely to make some cuts. . . . You don't have to be dean very long to have a pretty good sense of the quality. The problem is, you can't specify precisely to a department chair how you know that. In other words, I can't give a department chair a piece of paper that says, "You are an A+ department for the following reasons." Because the following reasons consist of things that are rather subjective. Things like, I have looked through all of your annual reports from the faculty and I have a sense that you got five people in your department who are A+ and could go to Harvard, Yale, Princeton, wherever they wanted to go, at any moment. And then you have got this group here that are B+, great. . . . And then you have got this group here who are so-so. . . . I think [that] if I sat down with every department chair and went through every faculty member one by one we would pretty much agree on that.

A point of limited rationality theory is that decision makers do not consider all alternatives, but start with a constrained list (March, 1994), and quality helped narrow the possibilities. Quality, although not invoked formally or, for that matter, neither defined nor clarified, most likely played a role in identifying potential programs for closure, but acted as a filter to narrow the range of potential targets, not as a final determinant. As one informant said, those involved "knew where the water leaked."

One way to interpret the "knowing" of targeted units before the process is to say that the processes were only for political reasons and maneuvering Rather than view leaders as crafting a process for its symbolic sake (Birnbaum, 1988, Bolman & Deal, 1991) or to rationalize the decisions after the fact (Gladstein & Quinn, 1985), the process did identify specific programs for closure Leaders may have started with an informal list, determined by quality, but the process helped to determine which programs specifically to close The process identified those programs that were not central to the mission of their college, were politically vulnerable, did not have champions or large numbers of politically astute faculty, students, or alumni, and had ineffective or novice leaders Without a process, these elements may not have surfaced

Discussion

The purpose of this study was to understand the decision rules guiding program discontinuance Secondarily, this study sought to test the framework of action rationality and decision rationality

The experiences of the four institutions suggest that the decision rules evoked to close academic programs included the following (1) Programs that were closed had weak or novice leaders (2) They were small programs with low numbers of students and (3) with low numbers of faculty (4) Programs were closed that were not central to the mission of the college that housed them (independent of the institutional mission) For example, closed programs were either professional programs in liberal arts colleges (such as journalism at OSU, and radio, television and film at UMCP), or liberal arts programs in professional colleges (such as theater at KSU) The second set of decision rules at work that influenced program closure processes were those that determined which programs to reinstate that had once been marked for termination They included (1) costs being too expensive to close (dismantling the nuclear reactor at UMCP) or finding "cost-neutral" alternatives at UR, and (2) external political pressure not to remove programs at UR and UMCP It is interesting to note that off-campus groups, rather than providing the impetus to change as so often presumed, in this study, prevented change from occurring

Second, institutional decision makers for the most part did not use the criteria they specified Although institutions said publicly that closures were to be based upon some combination of institutional mission centrality, quality, cost, contribution, demand, mandate, uniqueness, distinction, revenue, and investment (to name most of the criteria identified by three of the institutions), they used only quality, and this was used indirectly as an initial screen The programs that were closed did have low numbers of students, but rather than being linked to demand, an expected economic variable, size was political, as the small number of pro-program supporters could not generate adequate political clout Because decision makers did not make choices to maximize their stated criteria of cost, quality or centrality, the number of programs closed was not as essential as if they had chosen in ways to optimize results For example, the amount of money they saved no longer had the same importance. In fact, none of the institutions in this study tracked the savings from closures (Eckel, 1998)

Third, this study does not support much of the common wisdom of deciding among programs to close Program closure decision rules have little to do with external demand for graduates, anticipated enrollments, or internal demand for courses Institutional decision makers do not distinguish among programs based directly on quality of inputs or outcomes, on the revenue or resources generated, on the impact of programs, or on their history (Dickeson, 1999) Programs were closed in this study that did not have strong unit leaders, that lacked champions on campus, that were not central to the missions of their colleges, and that had small numbers of faculty and students (and thus alumni) As one informant said, "they took the ones they could get away with"

To focus particularly on quality, this often-identified criterion was used to limit the range of choices, not to specify particular programs It was used first, informally, imprecisely, and independently It set the limits of limited rationality by constraining the number of alternatives considered and the amount and accuracy of the needed information (March, 1997) Quality thus played a role in setting parameters, but it did not factor into the choice process at the times or in the ways typically expected, such as a comparative indicator coupled with other criteria such as cost and demand

Fourth, the findings offered no counter to those suggested by Slaughter and her market framework The programs closed may indeed be far from the market and fall victim to strong economic undertows Institutions closed programs in education, journalism, theater, religion, textiles, recreation, agriculture, human ecology, and recreation and tourism They did not tap biotechnology, economics, or engineering The two sets of findings reinforce one another as different frameworks suggest consistent findings with different explanations Although when taken together, it is difficult to determine the interactions of the frameworks, market forces might determine the extent to which a decision is "doable" as Slaughter asserts, or the desire to act limits the choices to a list of possibilities shaped by the market

Fifth, because institutional leaders did not invoke the stated decision rules but used alternatives, one might conclude that the process of determining programs for closure may have identified the actual criteria "Human choice behavior is as much a process for discovering goals as for acting on them" (Cohen & March, 1986, p 220) Preferences often are determined through action, rather than action determined through preferences (Weick, 1979) In program discontinuance at the four institutions, the choice of certain programs is shaped by the necessity to act Acting, in this case, determining which programs to close and which are "close-able," becomes the process of collective organizational thinking (Birnbaum, 1988)

Finally, the findings suggest action rationality over decision rationality Institutional decision makers, as this study demonstrates, invoke a rationality that can get the job accomplished They do not identify criteria—typically cost, centrality and quality—determine relative weights among the criteria, collect data for comparison, and make decisions based upon the data to maximize economic benefits Action rationality may not close the most costly programs, the weakest ones, or those least central to the institution, leading to a watering down of results For program closure in these four cases, action rationality is political The decision rules invoked identified programs that did not have the political strength to fight back, were small, had weak or novice leaders, and did not have champions across campus Decision makers, to close programs, followed a rationality based upon power, negotiation, and coalition building (Baldridge, 1971, Bolman & Deal, 1992) When the action rules were violated, such as with Mathematics at UR, closures did not occur Even though action rationality brought about closures, three of the four institutions developed a list of criteria that alluded to decision rationality One might conclude that the illusion of decision rationality is needed to keep the process moving, but action rationality is needed to accomplish the task.

Conclusion

This study suggests that the majority of decision criteria identified are *not* used to select programs for closure Rather, institutional decision makers use alternative criteria, ones that lead to action Simply having stated criteria, and possibly a process to develop those criteria, may be more important to the discontinuance process than serving a utilitarian choice purpose Stated criteria most likely fulfill a symbolic role needed to generate commitment and action (Birnbaum, 1988, Bolman & Deal, 1992, Chaffee, 1983) The stated criteria, as well as the legitimate process by which they are developed, create involvement opportunities for key actors, capture the attention of influential stakeholders, develop an atmosphere of seriousness, and identify members of potential coalitions, both allies and opposition.

Those seeking guidance on program closures should understand the importance of the discontinuance process for identifying workable decision rules that lead to action. Although leaders at these four campuses did not adhere to their stated criteria, the processes they used uncovered workable criteria. Attention to process is essential, not simply to create legitimate and acceptable processes that are politically acceptable, but also to "discover" criteria that will lead to intended outcomes.

Because decisions are not based on cost, centrality, or quality, decision makers might reconsider readily adopting a strategy of program closure in the first place. By closing the programs "they could get away with," decision makers neither meet their goals of saving money, improving quality, or streamlining focus, nor do they follow efficient processes. Closure processes might cause pain, disruption, and hard feelings for possibly little actual return. Decision makers thus are caught between reaching their intended goals—which in the case of program discontinuance tend to be reducing costs, enhancing quality, or realigning institutional strategy—and closing politically vulnerable programs that may do little to increase quality, save money, or create new strategy.

Program closures might only be considered as a worthwhile strategy if closing any department is more important than closing the right program—which might be the case to prove agility to state legislators or to create a campus climate of enhancement that is to be taken seriously, such as at UMCP and UR—and if the actual amount of money saved or quality gained is unimportant. At a minimum, institutional leaders should realize that program discontinuance is not a strategy that will most likely maximize outcomes in terms of cost, quality, or institutional centrality.

Finally, leaders should develop a more critical eye to distinguish between helpful and unhelpful management advice. Academic decision makers should come to realize that rational decision rules may be insufficient to bring about action and that advice solely from this perspective may lead to failed processes and perceptions of administrative ineptness.

APPENDIX A
Programs Closed by Institution

University of Maryland at College Park

- The Department of Agriculture and Extension Education, thus terminating bachelor's, master's and doctoral degrees in Agricultural and Extension Education,
- the Department of Housing and Design, thus terminating a bachelor's degree in Housing, Advertising Design and Internal Design,
- the Department of Textiles and Consumer Economics, thus terminating bachelor's degrees in Textiles, Apparel Design, Textile Marketing/Fashion Merchandising and Consumer Economics, and master's and doctoral degrees in Textiles and Consumer Economics,
- the Department of Industrial, Technological, and Occupational Education, thus terminating MA, MEd, EdD, and PhD degrees in Industrial, Technological, and Occupational Education and six bachelor's degrees in Industrial Technology,
- the Department of Radio, Television and Film, thus terminating bachelor's, master's, and doctoral degrees in Radio, Television and Film,
- the Department of Recreation, thus terminating bachelor's, master's, and doctoral degrees in Recreation,
- the Department of Urban Studies and Planning, thus terminating bachelor's and master's degrees in Urban Studies (but keeping a Master of Community Planning degree and moving it into the School of Architecture),
- the College of Human Ecology (including those programs named above in the Departments of Recreation, Housing and Design, and Textiles and Consumer Economics, remaining programs in the college were distributed among various colleges)

Oregon State University

- Eliminating the College of Education, and within the college, closing the departments of postsecondary and technological education, mathematical, science and computer science education, counselor education and college student services administration, and curriculum and instruction These closures would eliminate degree programs in industrial arts education, marketing education, reading, social science education, technology education, trade and industrial education, and training and development The remaining programs would be merged into a reorganized College of Human Ecology and Education,
- Closing the Department of Religious Studies and the Journalism Department, terminating all degrees offered through those units, and eliminating an undergraduate degree program in broadcast media, all in the College of Liberal Arts,
- Closing the Department of General Sciences in the College of Science,
- Eliminating the hotel, restaurant, and tourism management program and closing the Management Science Department in the College of Business,

APPENDIX A (*Continued*)

- Closing undergraduate degree programs in poultry science and soil science and merging 17 departments into 11 in the College of Agricultural Sciences

University of Rochester

- PhD programs were "suspended"[3] in Chemical Engineering, Mathematics, Linguistics, and Comparative Literature,
- A year prior, the doctoral program in Anthropology was closed

Kent State University

- PhD program in Counseling Psychology,
- PhD program in Theater

Notes

[1] Campus leaders at all four institutions declined offers of institutional anonymity

[2] Because the study was retrospective, the researcher was not present during the discussion, thus the following is inferred from the data collected

[3] Programs were not officially terminated, but rather suspended, a technical term in the State of New York that does not require state permission and leaves open the door for reinstatement

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Greg Tanaka

Higher Education's Self-Reflexive Turn

Toward an Intercultural Theory of Student Development

In December 1992, Tierney published an article in which he asked whether Tinto's (1975) theory of student social and academic integration was in effect "assimilation" in disguise Embedded in Tierney's critique was a concern that research on college student development had been ethnocentric and that core assumptions underlying theories of cognitive and social development would need to be revised While Tierney's inquiry echoes an earlier call from the campus ecology movement to modify student development theory in the late 1960s (e g , Altman & Haythorn, 1967, Banning & Aulepp, 1971), it also gives rise to a more current theoretical question Why have research methods on college student development not kept pace with the proliferation of social theory since the 1970s addressing the connection between culture, power, and knowledge?

This article seeks to (1) infuse critiques from recent social theory into survey instruments traditionally made available to higher education research and (2) offer a framework based on those critiques for a new "intercultural theory" of college student development Thus, although it would be valuable to examine how institutions change how power operates in increasingly intercultural contexts (e g , Darder, 1991, Tanaka, in press, Tanaka & Cruz, 1998, Tierney, 1991), the purpose of this article is specifically to promote dialogue about whether to infuse recent social

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Greg Tanaka is Chair, Department of Human Development, Pacific Oaks College, Pasadena, CA

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critiques into the *methods* of higher education research (see e g , Cherryholmes, 1988, Foster, 1994, Gitlin, 1994)

I Modern Theories of Student Development Circa 1975

Tinto's original theory of "social and academic integration" (1975) had sought to explain why some students persisted and others dropped out of college By integration, he meant the extent to which students adapted themselves to the culture of the institution As suggested by Nora (1987) and Murguia, Padilla, and Pavel (1991), Tinto's theory can also be applied to campuses with ethnically diverse students Similarly, A W Astin's (1975) ground-breaking theory of "student involvement" has had several glosses over time Not only can students improve their success in college through greater personal involvement, but the institution can take steps to enhance a student's "talent development" (Astin, 1991) Like the theoretical work of Tinto and Astin, Pace's (1984) "quality of effort" model compares student progress in college against personal participation in "various activities related to the use of facilities and opportunities" on campus

What all three modern constructs have in common are (1) an interest in measuring the impact of student participation in the institution and (2) a tendency *not* to examine the underlying cultures of that institution (often Western European, straight, upper middle class, and male) However, in times of fragmentation linked to rapidly changing student racial demographics and heightened awareness of difference based on race, gender, and sexual orientation, a culturally neutral perspective may overlook differential impacts from participation by diverse groups and fall short of providing the data policymakers will need to foster meaning and harmony *across groups* Although not something modern theorists could have predicted in the 1970s, there is growing empirical evidence that current approaches are no longer adequate to explain the increasingly complex experience of contemporary college students (e g , Bischoping & Bell, 1998, p 191, Dey & Hurtado, 1996, p 30, Kraemer, 1997, p 173, Levine & Cureton, 1998, pp 143–146, Love, 1998, pp 303–305, Baxter Magolda, 1992, pp 277–279, 1996, pp 297–303, Richardson & Skinner, 1990, p 507, Tanaka, 1996, 1997, 1999, Tanaka & Cruz, 1998, Thompson & Fretz, 1991, p 445, Wolf-Wendel, 1998, p 175 See also Foster, 1994, pp 137–140, 1997, Nozaki, 2000, p 375, Pascarella & Terenzini, 1998, p 155, Popkewitz, 1997, pp 25–27, 1998, p 560)

To examine the potential for rearticulating modern theory and methods, this article submits the survey instruments used by Tinto, Astin, and Pace to five probes In addition, it will review the models of "reference group formation" by Cross (1971), "different voice" by Gilligan (1977), and "social construction" by Tierney (1992) The probes are

(a) *Voice* Does the construct treat members of each cultural group not as objects but as people who have "subject position" and can author their own cultural histories? (Feminist theory, queer theory, and multiculturalism)
(b) *Power* Does the construct include within its scope a recognition that power and knowledge are interconnected? (From poststructural critique)
(c) *Authenticity* Is construct validity maintained by locating students in their own time and history? (From postcolonial or transnational anthropology)
(d) *Self-reflexivity* Does the construct promote self-knowledge for the researcher by making his or her culture and social location a part of the analysis? (From postmodern theory)
(e) *Reconstitution* Is the researcher urged to use personal story to reveal needed change in the structures and reward mechanisms of his or her own discipline and academic department? (From critical race theory)

Although there are many excellent points of departure from social theory at the turn of the century, I have selected the above five because of their potential for making an immediate impact on current research in college student development.

Data for this article come from the categories contained in *survey instruments* used by Astin, Pace, and Tinto, a sampling of *social theory* since the 1970s, and a review of *literature* by modern theorists For example, modern surveys of student development have traditionally been very effective at measuring student progress along academic and social lines These include the Cooperative Institutional Research Program (CIRP) developed by Astin, the College Student Experiences Questionnaire (CSEQ) developed by Pace, and Tinto's use of four preexisting surveys—the National Longitudinal Survey (NLS), High School and Beyond (HSB), the American College Testing Program Survey of Institutions (ACT), and the Survey of Retention at Higher Education Institutions

Categories in modern surveys thus include measures of cognitive growth, social development, aesthetic creativity, critical skills, and institutional characteristics like school size, whether private or public, and faculty attitudes (see e g , Pascarella & Terenzini, 1991, pp 15–61) None of these designs, however, takes into account the impact of student racial demographic shifts, issues of power, or the cultural norms that may impact student development Though others have focused with some success on categories that locate a student within a historical context of domination, marginality, or self-identity (e g , Cross, 1971, regarding African Americans, Gilligan, 1977, regarding women, and Tierney, 1992, regarding Native Americans), none of these measures student cognitive and social development—what the modernist techniques had done so well The challenge is to examine the possibility of combining benefits from both approaches under one analysis

II A Flowering of Social Theory Since the 1970s

Although the following extracted concepts cannot do justice to recent social theory, they are offered in the spirit of initiating discussion about how to broaden research on college student development to accommodate the rapidly shifting cultural terrain on U S college and university campuses, where social locations of race, gender, and sexual orientation are of growing salience in the student experience For example, the percentage of students who are of color in U S colleges and universities rose from 15 7% in 1976 to 27% in 1998 (National Center for Educational Statistics, 1977) In California, the percentage of students of color rose from 21 5% in 1979 to 48 5% by 1998 (California Postsecondary Education Commission, Hu & Tanaka, 2000)

A "Voice " Seeing People as Agents Who Can Author Their Own Cultural Histories (Feminist, Queer, and Multicultural Theory)

To address these trends, I want to advance a thesis that comes from three allied thrusts Feminist theory was among the first to suggest the metaphor of "voice" as a means of promoting the end of one culture's dominance in academe In lieu of a centralizing tendency of male writers to speak for women, the feminist theorist would end male characterization of women as "the other" and move the woman's voice from the margin to the center Expanding on this, bell hooks (1984) urged that class and race oppression also be included when ending a hegemonic knowledge system In other words, the goal should not be for one group or another (this time white feminists) to "gain social equality with ruling class white men" but rather to end dualism altogether (p 15) Using this perspective, it would not be enough to add a question or two on gender to a survey instrument, it would be necessary to reexamine the entire instrument for voice Having voice means having culture For each student this will mean having survey questions that locate his or her culture in relation to such core experiences as course content, grading, and professor/student relations

Queer theory added to the idea of voice by calling for a "denorming" of academic practices Researchers here are urged to "work to understand how norms came into existence, how they have been maintained and how strategies have been employed to silence different groups" (Tierney, 1997, p 63) For Tierney, greater voice will mean more than just creating new survey questions that probe the maintenance of heterosexual norms on a campus It will also mean that research on sexual orientation must reveal the norms contained within the research process itself (In other words, the research function will itself need to be "denormed") In my view, a critical denorming would not replace old norms with new ones that favor a new group but advance a new ethical framework that values particularity and does not favor any one group's voice

Like feminist and queer theorists, multicultural writers use the metaphor of "voice" to validate the cultures of people of color Noting, however, that multicultural gains of the 1960s have been "appropriated by dominant humanism," McCarthy (1993) now urges that constructions of knowledge be radically redefined from heterogeneous perspectives rather than merely settling for having one's voice included Following McCarthy's critique, research instruments should make multiple, shifting social locations based on gender, race, ethnicity, class, sexual orientation, and other identifiers the *central* focus rather than merely being added on

What these progressive thrusts have in common is a preference for broader and more complex applications of "voice" to validate many diverse cultures in education It is important here to envision "culture" broadly to encompass shared meanings of a group of people that derive from race, ethnicity, gender, sexual orientation, class, immigrant status, physical capability, and combinations thereof (Tanaka, 1997, pp 275–276) A student thus might see herself or himself as an African lesbian, or an economically disadvantaged European-American male, or an economically privileged Vietnamese woman who is ethnic Chinese There is also great variation and shifting within categories, so that the act of knowing each student's social location is a search for an evolving, negotiated, multilayered cultural perspective

In this way, "culture" is not reduced to essentialized categories, and researchers have an interest in finding better ways to study the interactions between complex social locations of individuals and their institutions Toward the end of this article, I offer some suggestions about how this concern might be operationalized The attempt flows from a belief that it would be self-limiting for quantitative researchers to abdicate to "qualitative research" the responsibility to research these issues at a time when they are becoming so salient It might even enhance research to take tropes arising from qualitative studies and use them to inform a quantitative research design (see e g , Antonio, 1998, Mau, 1993 p 348, McDonough, Korn, & Yamasaki, 1997, pp 297–298, Tanaka, in press)

B The Close Relationship Between Power and Knowledge (Poststructural Analysis)

To evaluate this, I will apply to higher education research the poststructural concept that knowledge about culture is mediated by power This thesis holds that people in power will tend to advance a rendition of knowledge and history that favors them and keeps them in power (Foucault, 1972) Whereas power is frequently used to convey a sense of political control over others or over social fields, as in Gramsci's concept of hegemony (1977, pp 276, 325, 349), I will use power here in two different ways—as a reflection of both the systemic and discourse-based notion of power articulated by Foucault (1976, pp 93–94, 100–102) and of the meaning that comes from feeling a fundamental interconnectedness with other human beings as advanced by Kondo (1990, pp 9–10) Applying a discourse-based conceptualization of power helps the researcher consider that writers of history will often mask any connection between published knowledge and their own power by making claims to universal truth The problem arises when there is increased particularity deriving from race, gender, sexual orientation, and other social identifiers at college or university campuses A discourse-based examination of power may not fully reveal how an individual finds meaning and self-validation (or does not) in such complex social spaces In such contexts, a second measure of power would examine one's ability to feel a sense of meaning from connectedness with others on a campus

What I want to suggest is that now is a good time to make "power" a formal category of analysis in higher education research by including it in survey instruments This means examining what determines what counts as knowledge on a campus and whether that process is friendly or unfriendly to a student's multiple cultures Instead of studying "minorities" in relation to an unexamined dominant culture, the proposal here is to study the social positions and cultures of *all* students *in relation to* other cultures on campus In operationalizing concepts like power, privilege, and oppression, care must of course be taken to avoid reducing complex behavior to simplistic categories of analysis, but the need for caution should not be a reason to shy away from this responsibility either

In making the power dynamics of knowledge systems less opaque, poststructural theory thus reveals how culture, power, and knowledge are intertwined whenever monological (e g , Western, straight, and male) frames of reference attempt to speak for all cultures But how can researchers make sense of power at a time when campuses are so embroiled in "culture wars"? For this I will turn to theory from postcolonial, or transnational, anthropology

C Authenticity and Questions of Validity in the Research Function (Transnational Anthropology)

The key to understanding power in higher education research, in my view, will come from acknowledging the wider historical context of transnationalism that impacts today's undergraduate experience With recent trends in immigration, the infusion of students of color into campuses (with two-thirds of a recent entering class of color at the University of California at Berkeley) underscores the inadequacy of doing research from a one-culture view of history In fact, a widening gap between traditional assumptions and today's student experience suggests that the research function may be askance of actual campus conditions The westward thrust of European peoples into the United States is now recontextualized as just one of many transmigrations across oceans and continents, and diasporas triggered by Western colonialism have ironically come home to rest in the sacred space of the Eurocentric U S university Here, research methods can no longer afford to be "timeless" or overlook the onrush of multiple cultural histories What Popkewitz (1997, p 21) had once called the "regulating effect of power"—a universalized conception of time—is starting to come unraveled

"Authenticity," as I use the term, therefore refers to the act of locating each student in his or her own time and history—what Radhakrishnan (1996, p 123) calls "personal authenticity" In education research, this would mean studying the historical context of power for the ethnic culture, gender, sexual orientation, and other social identifiers of each student For example, too much information is lost in treating Asian Americans as a homogeneous, exoticized category (see Kondo, 1997, p 195) Authenticity will instead require researchers to study the *multiple and shifting* sources of power and social location of each Asian American—in my case, an educationally and economically privileged, straight, third generation, Japanese American male—in relation to the power of other cultures on the campus (see, e g , Love, 1998, p 303, on authenticity for LGBT students)

A nuanced rendering of social location would thus require a researcher to avoid essentializing authenticity by treating categories as homogeneous or exotic or by leaving them unexamined (e g , Trinh, 1989, pp 89–94) Provision for variance would enable researchers to then move "into and out of" a rhetoric of authenticity (Pratt, 1995, p 194) In other words, the goal of quantitative research in increasingly polycultural contexts should be to enhance the ability of a researcher to uncover *greater particularity* and at the same time avoid the tendency to oversimplify existing categories of analysis Seeking personal authenticity can thus constitute an initial step in helping a researcher connect up (in one analysis) the rich strands of culture, power, and knowledge for each student

In this vein, a potentially widening gap between traditional assumptions and today's student experience of diversity raises the distinct possibility that the research function may be losing its ability to reflect actual campus conditions If closed to the growing importance of authenticity, student-based research could begin to sacrifice both its ethical goals (de Certeau, 1986, p 200) and its construct validity—that close connection between meaning and a research operation (Cherryholmes, 1988, p 100) An "allochronic" approach that leaves time out of the equation too easily reproduces the researcher's view of events (Fabian, 1983, pp 52–69) and ironically undercuts that researcher's own assertion of objectivity

But authenticity is not without its risks One is the trap of reducing complex, shifting cultural behavior to neat "authentic" categories (Trinh, 1989, p 94) Another can occur when a researcher thinks he can truly "know" the history and emotions of a student coming from a culture different from his own To avoid *in*authenticity (e g , Astin, Astin, Antonio, Astin, & Cress, 1999, pp 14–18), researchers will need to construct questionnaires that allow students to self-report the nuances of their own cultural identities and histories in the social context of the institutions they attend This means asking a student how much he learned about his own sense of power, agency, and ethnic identity (or sexual orientation or gender) in college, rather than whether there is "too much" or "too little" emphasis on a broad, abstract category like "race" or "multiculturalism" on a campus

To operationalize authenticity fully, researchers will first need to be aware of any bias that might stem from their own sources of authenticity, they will need to locate themselves in their work How does one insert oneself into the analysis?

D Self-Reflexivity—Locating the Researcher in the Analysis (Postmodern Critique)

Although postmodern critique too often falls into the trap of celebrating the very fragmentation it examines, it does offer some useful concepts One of the most promising is self-reflexivity (discussed in Tierney & Rhoads, 1993, p 326, but not Bloland, 1995, or Mourad, 1997) "Self-reflexivity" would be what happens when a researcher uses what he learns about another culture to better understand all cultures, including his own (Marcus & Fischer, 1986, p x) In effect, new knowledge about "the other" forces the researcher to reflect back on himself Self-reflexivity can thus be the mirror by which a researcher compares his or her own place in time and history with the historical/social context of the students being studied

In quantitative research, this means the researcher will need to construct survey instruments that make his own social markers—e g , being male or heterosexual—a part of the analysis For example, if current practice assigns to these identities a universal but unstated norm status to which all students must presumably adapt, reflexivity will require the researcher who wants to study a diverse student body to move away from this unexamined bias by making his own power, culture, and knowledge a part of the equation

With reflexivity thus comes this thought that research on student development may already be out of step with campus demographics precisely *because* the norms of its most progressive researchers have been unstated To examine how liberal researchers might have come to occupy the very status quo they once critiqued, I will turn next to the work of critical race theory

E Reconstitution—Seeking Actual Change in Academic Structures and Reward Mechanisms (Critical Race Theory)

The thesis I want to explore here holds that liberal scholars now ironically extend the status quo by leaving in place the very structures and reward mechanisms they critique (Tanaka & Cruz, 1998, p 145, Tate, 1997, p 203) While critiquing hierarchical structures and practices, liberal researchers often enjoy the benefits of those very systems (e g , tenure, access to elite publishing channels, high university salaries, and star professor status) With this so often the case, critical race theorists are calling for a shift in scholarship to require personal storytelling that surfaces specific areas of practice in need of change, beginning with one's home department and academic discipline Implicit in a critical race theorist critique is a wish for ways to replace old hierarchy not with criteria for a new hierarchy (e g , Torres, 1998) but with "a level playing field" for scholarly exchange

A critical race theorist would thus ask "Have criteria and practices resulted in hiring and promoting faculty of color, gays/lesbians, and women in the researcher's own department?" Or "Why is promotion and tenure even needed at all?" Or, "Are new faculty of color mentored by senior faculty—or left to fend for themselves?" "Are minority graduate students made coauthors in publications—or used to generate research about diversity for the professor's own gain?" "Is your publishing conducted under a heterogeneous process—or through journal hierarchies and review panels peopled by scholars from one homogeneous group?" Questions like these will need to be made a formal part of the analysis and incorporated into the protocol rather than left to interpretation.

In other words, higher education researchers can begin to identify specific ways to change their own departmental structures and reward mechanisms to accommodate the new demographics. In fact, critical race theory would suggest that higher education research now has a duty to do so. Campuses are already swirling from an influx of many students of color, a questioning of traditional knowledge systems, and demands to reexamine culture and power. Because of their unique positions as scholars who chart and make recommendations for higher education, these researchers arguably have an obligation to identify ways to mitigate the harsh effects of systemic upheaval on their own students by actual change in their own schools of education. Even greater potential here lies in testing new research methods that will generate models for organizational change elsewhere.

In sum, while any of the five above inquiries would bring fresh infusion of new theory into higher education research, they also go hand in hand. Tropes of voice, power, authenticity, self-reflexivity, and reconstitution overlap and borrow from each other. To reflect the increasingly heterogeneous student experience, methods will likely need to incorporate lessons and perspectives about culture, power, and knowledge from all five.

III. A Review of Modern Constructs for College Student Development

A. Social and Academic Integration (Tinto, 1975)

Vincent Tinto's (1975) theory of social and academic integration was proposed to help explain why some students persist and others drop out of college. To apply this theory he employed survey instruments developed earlier by other researchers. In the National Longitudinal Study of 1972 (NLS), questions were designed to track student progress through college in comparison to their senior year of high school. Questions in the 1972 survey dealt with personal and family background, educational and work experiences, plans, aspirations, attitudes, and opinions (U.S. Department of Education, 1977). The questions in the follow-up survey were tailored to find out the extent to which earlier student "plans and aspirations persisted over time or were eventually fulfilled," the extent to which "educational experiences prepared young people for their work," and the financial considerations "in setting low-aspiration goals and in failing to meet high-aspiration goals," and so on (U.S. Department of Education, 1977).

The original survey, consisting of 104 questions, was thus primarily directed at career goals, work experience, and other factors steering a student toward a productive life as a working member of society. None of the 104 questions inquired about the impact of multiple cultural histories or transnational racial demographic shifts on the student experience. Importantly, none of these questions examined whether the cultural history of each student was nurtured by the campus. Finally, none of these questions attempted to examine power relations within the college campus that might reproduce inequalities in race, gender, or sexual orientation. With these items left out of the protocol, scholars who now use the NLS instrument are not led to examine their own identities in relation to the data or to learn about their own social position. Nor can they generate ideas about how to change academic structures or reward mechanisms to "reconstitute" social relations and institutional practices to better accommodate different forms of diversity.

In retrospect, we now know that Tinto's original conception of integration was handicapped by the surveys—and jargon—of his time. Cultural bias seems embedded in the very name of the theory, "integration," implying assimilation to dominant norms. Thus, although Tinto's conception might allow researchers to discover how to help American Indian students adjust to a "mainstream" white college environment, it does little to expose and unseat the undemocratic play of power there. Tinto's theory of social and academic integration thus falls short on all five of the inquiries from social theory. In a more recent book, Tinto (1993) addresses Tierney's critique obliquely by suggesting that his theory can accommodate "diversity" by encompassing the needs of older students and those attending community college. In continuing to overlook racial, ethnic, and other socially constructed distinctions (e.g., Tinto, 1998), Tinto's formulation is unable to provide for an examination of issues of voice, power, authenticity, and reflexivity or to make reconstitution possible.

B. Student Involvement (A. W. Astin, 1975)

Perhaps most cited of modern theories of student development, Astin's (1975) theory of "student involvement" is the basis for my own graduate training. Stating that a student who gets personally involved in college will enhance his or her chances of persistence, this theory has evolved over time and in many ways has gone the farthest in adapting modern approaches to today's student demographic diversity Although some scholars challenge the notion that Astin's formulation constitutes a "theory," the idea of student involvement has over the years proven to be a robust, heuristic conceptualization that predicts the impact of a broad range of interacting factors on student outcomes These characteristics would seem to satisfy Kerlinger's (1979, p 64) definition of a theory as "a set of interrelated constructs, definitions, and propositions that presents a systematic view of phenomena by specifying relations among variables " Evans, Forney, and Guido-DiBrito (1998, pp 16, 26–27) reach the same conclusion after applying the definitions of a theory developed by Rodgers (1980, p 81) and Strange and King (1990, p 17)

Adding "talent development" in the 1980s, Astin argued that an institution could be changed to meet the needs and interests of its students It may be for this reason that Astin's national survey—the Cooperative Institutional Research Program, or CIRP— now encompasses not only social, personal, intellectual, and professional growth but also a number of inquiries about race, gender, and sexual orientation Thus, while the 1985 CIRP Freshmen Survey had focused on issues considered important in the 1970s and 1980s–

> Is it important to you to influence social values?
> Is it important to you to influence the political structure?
> Is it important to you to help others in difficulty?
> Do you intend to join a social fraternity, sorority, or club?
> Do you think abortion should be legalized?
> Do you think federal military spending should be increased?

—the 1989 CIRP "Follow-up" survey instrument widened this scope considerably by including questions relating to gender and race

> Have you attended a racial/cultural awareness workshop?
> Have you enrolled in an ethnic studies course?
> Have your enrolled in a women's studies course?
> Have you experienced a change in your acceptance of different races/cultures?
> Is it important to you to promote inter-racial understanding?
> Is it a college priority to increase the number of minorities in the faculty and administration?
> Is it a college priority to increase the number of women in the faculty and administration?

Is it a college priority to create a diverse multicultural environment?
Is there a lot of racial conflict here?
Are faculty sensitive to issues of minorities?
Do many courses include the minority perspective?
Do many courses include feminist perspectives?
Do students of different ethnic backgrounds communicate?

By the measure of "voice," the CIRP instrument has arguably become a leading force in the study of student diversity.

What this instrument can do next is de-center such dominant cultural practices as Eurocentrism and maleness by making these social locations a formal part of the protocol. Future iterations could also add questions asking students about the power they feel in the classroom, in interactions with professors in the student's major, in one-on-one interactions with a faculty advisor, or in relation to course content. For example, Astin recently encouraged and joined in an article dealing with power and college student admissions (Tanaka, Bonous-Hammarth, & Astin, 1998)—signaling that power may soon find its way into specific survey questions. In 1995 the CIRP instrument contained an experimental question asking faculty whether "Western civilization and culture should be the foundation of the undergraduate curriculum." If made permanent, this question would further bring the survey into the present time experience of a college student on a diverse campus. In other words, authenticity will be even better developed under Astin's approach when all cultures of a campus, including those of dominant groups, are subjected to the same analysis.

Similarly, the 1995 CIRP instrument contained an experimental question asking students how much they had learned about their own racial or cultural identity while in college. A question like this would explore the impact of the college experience on the identities of white students as well as students of color and make possible an examination of interaction effects between institutional practices and the identity and power, on campus, of all students. Future iterations of CIRP could then assess the impact of specific attempts to reconstitute social relations, academic structures, and reward mechanisms as well as self-understanding and personal authenticity for the researcher. In addressing voice, Astin's theory of student involvement is thus better positioned to explain behavior than Tinto's theory in today's context of complex student racial demographics and other diverse interests. The next step would be to fully extend the scope of CIRP to encompass the interplay of power and social location affecting each student, the institution, and the researcher.

C Quality of Effort (Pace, 1984)

In his College Student Experiences Questionnaire (CSEQ), Pace examined "how often, during the current school year, students engage in various activities related to the use of facilities and opportunities" He related these activities to library experiences, experiences with faculty, course learning, the student union, art, music, theater, athletic and recreation facilities, clubs and organizations, personal experiences, experience in writing, student acquaintances, science, campus residence, topics of conversation, and information in conversations Pace then compared scores on these 14 measures against scores from 8 indices of college environment and 23 estimates of gains, namely, How often have you "used the library as a quiet place to read or study materials you brought with you?" How often have you "made an appointment to meet with a faculty member in his/her office?" How much does your college emphasize "being critical, evaluative, and analytical?" How often have you "changed your opinion as a result of the knowledge or arguments presented by others?" Using this protocol, Pace theorized that a student's success in college would in large part be determined by the "quality of effort" invested by the student in the college experience

Pace's CSEQ questionnaire thus creatively combined measures of intellectual and professional growth and personal qualities in one instrument Crafted at the end of the 1970s, it did not set out to examine such items as (1) the multiple voices of women, gays and lesbians, or people of color, (2) power relationships on a campus, (3) student personal authenticity in the research design, (4) self-reflexivity for the researcher, or (5) the need to reconstitute academic structures and social relations based on shifts in power and student demographics Thus, although Pace himself found "no noticeable difference in quality of effort between any ethnic groups" on 10 of 14 activity measures (Pace, 1990, p 90, 1991, 1992), other scholars may now wish to extend Pace's time-tested and parsimonious analysis by, for example, drawing a distinction between campuses that accommodate effort from diverse students and those that do not, and then comparing student responses from each This could be achieved by linking existing data bases to the CSEQ or by using the CSEQ environment item dealing with diversity or by creating an "exposure to diversity" subscale from existing CSEQ items

While Pace had been first to break down the categories in which a student might expend his or her effort, the next step would be to take "effort" to a greater level of cultural specificity by distinguishing, for example, whether the impact of time spent in "clubs and organizations" is different for a Chicana participating in an ethnic club like MEChA that nurtures the student's identity versus a campuswide activity like the student government One way to do this would be to invite each institution to add a sheet with an identification number that lists those organizations on its campus

Like Tinto's theory, Pace's construct can be misused by researchers if they choose not to examine the underlying cultural norms of the institution, thinking simply that the more you immerse yourself in the general activities of the campus, the more likely you are to "persist" and do well academically But by ascribing to every campus the same "universal" quality of a culturally neutral space, that researcher would run the risk of *under*-estimating the differential effects of campus culture on students who are not members of the dominant group and a parallel risk of *over*-estimating the importance of effort where students in fact think that further engagement would only harm their sense of self-worth Research has now shown, for example, that white students attending increasingly diverse institutions will experience different levels of cultural awareness and overall satisfaction with college depending on their personal engagement with cultures different from their own (Tanaka, Bonous-Hammarth, & Astin, 1998) It would not be too great a stretch to conclude that if outcomes for white students are impacted when they attend campuses that emphasize multiculturalism, there might also be differential impacts from a campus culture on students of color, particularly if that culture is presumed superior to theirs (see, e g., McCarthy, 1993, pp 294–297)

Thus, although Pace's theoretical construct adds volition to student development research, his CSEQ instrument does not require a researcher to distinguish between activities that reaffirm a dominant culture and those that nurture alternative identities, experiences, desires, and histories Absent new questions, it would be difficult to evaluate a student's ability to self-define in an institutional context of power/knowledge and see whether this affects the student's success in college

It is important to pause here to consider whether it is even reasonable to insist that the Pace instrument examine such issues as power and voice when CSEQ-based studies have shown time and again that what matters most is what students themselves do in a given institutional context. I will note here that the original impetus for this article came from my review of 31 self-studies conducted by the University of California system in the late 1980s and early 1990s Studies using the CSEQ (Morrell & Lare at U C San Diego, 1988, p. 63; Amos at U C. Davis, 1990, p 4), the ACT (Amos, 1988, pp 26, 29, Arias at U C Riverside, 1989, p 15, Low at U C Davis, 1991, p 27), and CIRP (Henson & Shepard at UCLA, 1989) revealed differential outcomes for racial minorities at those institutions but could not uncover clear causes or solutions Amos (1990, pp 26–29), using the CSEQ, found that despite having the highest Quality of Effort of any ethnic group at U C Davis, the investment by African Americans was "not paying off in high graduation rates" Similarly, Morrell and Lare (1988, pp 31, 48) found that among all ethnic groups, African American students perceived the highest level of academic emphasis by U C San Diego but had a low level of actual education gains in comparison to other groups No clear causes—or solutions—were identified

With this lacuna in existing instruments, a new genre of "campus climate" studies came into being that traced the problem to a mismatch between a dominant culture on campus and the cultures of racial minorities (Aaron at U C Irvine, 1988, pp 66–95, Duster at U C Berkeley, 1990, p 24, and Astin, Trevino, & Wingard at UCLA, 1991, pp 16–21), women graduate students (Mercer at U C Riverside, 1990, p 21), and lesbian and gay students (Nelson & Baker at U C Santa Cruz, 1990, p 16) Recommending specific changes to mentoring and housing practices (Jacobi-Gray at UCLA, 1990, p 15), the curriculum (Maslach at U C Berkeley, 1991, p 14), and departmental policy (Mercer, 1990, p 41), these "campus climate" studies served clear notice that the causes of differential experience were indeed tangible and were not being measured by instruments like the CSEQ

With issues of culture and power finding even greater salience today, my point is that proven instruments like the CSEQ–now administered by Kuh (Kuh & Vesper, 1997)—can be strengthened further by adding new questions to the original array that would enable researchers to examine potential causes of differential impacts arising from differences in power between the dominant cultures of a campus and the social identities of its individual students With such questions, it might be possible to avoid having to conduct a second study of "campus climate" at every diverse campus

In this regard, Pace's model already fares better than Tinto's framework, and this is because it is so "interactive" His construct presumes that the student will enter the college environment *as an actor*—a person who influences his success by the extent to which he puts an effort into what he does Because it is based in part on a measure of agency, Pace's questionnaire is ideally suited to the addition of new questions that address issues of power, social location, and historical context

In sum, the instruments employed by Tinto, Astin, and Pace share several traits First, they arguably emphasize the systemic impact of the college on the student In doing this, their work represents a practical advancement over the theoretical work of stage theorists like Perry and Kohlberg, who had employed individual paradigms but not sought to examine the impact of institutions on students. In pursuing institutional impacts, however, none of the modern instruments examined the differential match-ups of culture (and power) between the institution and the student. As a result, the theoretical frameworks could not account for students' ability to define their own cultural trajectory or "alter the conditions of their own existence" (Rosaldo, 1989, p. 102). Ironically, by remaining culturally neutral, the modern constructs were then not able to make the asymmetries between cultures a part of the calculus, leaving for whiteness, maleness, and heterosexuality the quality of timeless "universal" against which all students must presumably measure up.

Second, under modern approaches, the study of oppressed groups can be accommodated but does not become a means of de-centering unstated norms. This kind of research is susceptible to misuse by those who might unwittingly assign to assumptions from an earlier time a status of "objectivity" and then interpret all new data through that same lens, including data about diversity. Warning against precisely that possibility, Pascarella and Terenzini (1998, p. 155) write: "As student diversity increases, understanding the experience of college and its various impacts will undoubtedly become much more complex. Research approaches that try to isolate the influence of a few variables for all students will simply miss the point and probably provide little in the way of useful, practice-or policy-relevant evidence."

Thus, although the instruments of modern researchers have been used successfully to examine subgroups in U.S. society—and their utility remains extremely high—they are in their current iterations unable to correct for undercurrents of *social reproduction* contained potentially within their own assumptions and psychometrics. Terms like "integration," "student effort," "persistence," "impact" on the student, and "retention rates" can too easily be misused to confuse academic success with conformance to a dominant culture at an institution or overlook the power of the student to determine his or her own cultural trajectory and exert an impact on the institution. The challenge is to renew the underlying theoretical bases for these modern instruments by recontextualizing them within today's shifting, overlapping, polycultural terrain.

IV. End-of-the-Century Frameworks Directing Education Research Toward "Reconstitution," or Actual Change

A. Social Construction (Tierney, 1992)

Tierney's theory of "social construction" arguably presaged the current crisis over changing student demographics by noting how colleges and universities reproduce fixed meanings that tell a society how to treat issues of race, gender, and sexual orientation In Tierney's view, researchers need to deconstruct (take apart) the hidden power dimensions contained in the social constructs or hierarchies that a college transmits to its students Criticizing Tinto for "inserting minorities into a dominant cultural frame" (1992, p 611) and for failing to account for the way social institutions "reproduce" the hierarchy that maintains the elite class on top, he urged that student development instead allow for "agency," or the ability of a student to put a spin on his or her own development

On measures of "voice" and "power," Tierney's (1992) theory of "social construction" would therefore rate high His ethnographic approach allows researchers to explore the play of power on a campus, and this approach can create the expectation of a new and more egalitarian social arrangement Seeking "not merely to describe the world, but to change it" (p 603), Tierney's research is by nature reconstitutive His use of narrative lends itself to the study of the researcher's own positionality and, through this, to the making of recommendations about how to change reward systems and structures in academe One limitation in Tierney's approach is that it is qualitative and does not encompass the wide range of traditional measures of student success of Astin, Pace, and Tinto Tierney can also test his theorizing by evoking actual change at a setting to demonstrate that "agency" is indeed possible

B Theory of Nigrescence (Cross, 1971, 1991)

Cross's theory of "nigrescence," or black identity formation, would also rate high along the dimensions raised here, because it moves off of a Eurocentric epistemology and substitutes a new framework for identity formation that is empowering to African Americans In 1971 Cross advanced five stages of identity formation based on a close review of 45 original studies of black identity and his own life experiences These are (1) "pre-encounter," where the individual learns over the years to favor a Eurocentric cultural perspective, (2) "encounter," where an experience shatters that identity or world view, (3) "immersion/emersion," in which the individual throws off the familiar by demonizing white people and culture, (4) "internalization," where the individual moves from rage toward white people to controlled anger at oppressive systems, and (5) "internalization/commitment," where the individual translates the new sense of blackness into a plan of action (see also Tse, 1990) What is interesting here is that Cross links positive black identity formation to a rejection of whiteness Although this is an act of severance rather than reflexivity, it does make sense in view of the tendency of whiteness to mark blackness as inferior (Morrison, 1992)

On measures of voice, power, authenticity, and reconstitution, Cross's model would therefore rate very high The idea that black identity can form only after rejecting the dominant culture's definition, and appropriation, of blackness is a powerful notion In addition, Cross's hint at more change to come from creating plans of action is reconstitutive Though Cross's model may be underappreciated in some research circles, it does aggressively de-center the Eurocentric bias of traditional thinking As a result, I now believe his work should be made a major part of any new theoretical construct that attempts to locate student development in particular historical and diasporic contexts What is needed next, however, is a way of looking at all identities under one lens—including the evolving ones of European Americans (Tanaka, 1996, p 309) In breaking away from hegemonic notions of identity, Cross's work fuels this article and makes possible the study of *inter*culturalism

C Different Voice (Gilligan, 1982)

Where Cross links black identity formation to active separation from and rejection of white culture, Gilligan's "different voice" model derives from a direct comparison between opposing thought processes This approach is by nature reflexive For example, noting how Kohlberg's model of moral development penalizes women for emphasizing relationships and communication as a means of resolving dilemmas, Gilligan (1982, p 18) concludes "Herein lies a paradox, for the very traits that traditionally have defined the 'goodness' of women, their care for and sensitivity to the needs of others, are those that mark them as deficient in moral development." Under Kohlberg's theorizing, a woman is automatically labeled "a full stage lower in maturity" than a male

Urging that human development for women be seen in women's own terms, Gilligan critiques modern theories for being male-centered and argues persuasively that Kohlberg's model of moral development is wrong for placing high importance on the self, where women place greater value on relationships (see also Bischoping & Bell, 1998, Clinchy & Zimmerman, 1993, Baxter Magolda, 1992, Wolf-Wendel, 1998) Though based narrowly on studies of white women, Gilligan's model nonetheless passes muster under the social theory applied here On measures of voice, power, authenticity, reflexivity, and reconstitution, the "different voice" model rates high Like Tierney and Cross, Gilligan's emphasis on relationships adumbrates an intercultural theory of human development.

V Toward an "Intercultural" Theory of Student Development

Interculturalism is not new (e g , Cornwell & Stoddard, 1994, Marranca & Dasgupta, 1991, Tanaka, 1994) In contrast to multiculturalism, which promotes the cultural stories of people of color in the United States, interculturalism moves beyond the addition of new voices to focus on “the interrelations of cultures as they evolve through time” (Cornwell & Stoddard, 1994, p. 43). Applied to colleges and universities, interculturalism might thus be initially defined as “a process of learning and sharing across difference where no one culture dominates” (Tanaka, in press). What is important here is looking at the point of cultural contact. To writers in the arts, for example, “interculturalism” implies a state of mind that allows for creative tension between cultural voices as they interact (e.g., Hwang, 1994, Marranca, 1991, Tanaka, 1993, 1994, 1995). In this regard, it is perhaps no surprise that Marranca (1991, p. 13) concludes in a book on performed art that America's interculturalism is growing *“out of* . . . the country's own geography and changing demographics” (emphasis added).

In fact, it is the close resemblance that fragmentation from changing campus demographics bears to work *across* difference in the arts that leads me to want to apply “interculturalism” to student development theory now. The need for this had surfaced earlier. At a large public university, a dance department's transition from Eurocentrism to multiculturalism had left white students without a way to connect to the new milieu (Tanaka, 1996). It was not enough merely to add new voices. In another study, the transformation of a liberal arts college into a multicultural campus ran into problems when it did not provide a way for white students and alumni to feel a part of the new campus community (Tanaka, 1997). At another institution, white students complained that a required course in American Cultures led to “white male bashing” (Tanaka, in press). Similar problems were encountered when urban K-12 school teachers entered a rural setting in Chile (Arratia, 1997).

A. Three Current Interpretations of Interculturalism

Interculturalism has at least three current interpretations. One is “hybridity” analysis (Bhabha, 1994) examining points of contact between cultures when they interact. Presuming a hybrid result, this framework can help researchers track the merging or overlapping of different cultures on a campus. Hybridity, however, tends to leave power out of the analysis, presume an end result of assimilation, and overlook what might occur when cultures interact but do not merge.

A second approach, “border theory” (Anzaldua, 1987), examines the two-way impact of cultures that come into contact, as when Latinos move north across the United States border and both impact and are impacted by the Eurocentric culture they find there. Using the metaphor of border crossing, this approach can separate out the different perspectives of power that come into play when two cultures mutually impact one another on a university campus However, border theory has most often been limited to a binary analysis of two interacting cultures, and this does not match the campus context in which more than two cultures and social locations are interacting at the same time

A third form of interculturalism (and the version I prefer) is "intersubjectivity" (Bakhtin, 1929/1984, Burbeles & Rice, 1991, p 409, Flores, Tanaka, & McLaren, 2001, Tanaka & Cruz, 1998) Under one interpretation of intersubjectivity (Lenkersdorf, 1996, p 28, Radhakrishnan, 1996, p 120), emphasis is on cultivating "subject position" for each individual—the ability of each student to have voice and a forum to tell his or her story In an ideal interchange, each student acquires subject position without turning anyone else into an object of his or her speech This exchange is subject-to-subject (de Certeau, 1986, p 217, contra Prus, 1997, p 6, Jackson, 1998, p 6) and builds relations of interdependence, collaboration, and complementarity that can lead to a greater sense of identity and belonging (Malaguzzi, 1993, pp 62–63, Merleau-Ponty, 1964) In effect, "I am me through you "

Under a second interpretation of intersubjectivity, emphasis is placed on evaluating the meanings attached to abstract social identifiers like gender, ethnicity, and sexual orientation—one's "subjectivities" (Bakhtin on religion, 1929/1984, pp 88–97, contra Schutz, 2000, p 226, Tanaka & Cruz, 1998, pp 144–151) Under this perspective, researchers can examine historical differences in power associated with each subjectivity, research how to create "positive subjectivities" out of ethnicity, gender, and sexual orientation, and delimit "negative subjectivities" like race and class, or explore whether a student's subjectivities are supported (or suppressed) in the student's major The challenge will be to avoid letting this analysis wind up with tinier reductionistic categories for meanings that are in reality quite textured, shifting, overlapping, and complex (Kaplan, 1997, Shohat, 1997)

What I want to suggest is that *both* interpretations are called into play in the increasingly complex U S college campus With so many identifiers like race, ethnicity, and gender all swirling and evolving in one space, intersubjectivity must now take into account the ability of every person on campus to have "subject position" *and* have her or his "subjectivities" nurtured in positive ways With a nurturing of personal and social intersubjectivity, human development becomes more nearly a process of *"remaking the subject"* (e g , de Certeau, 1986, p 92, 217, Crapanzano, 1992, pp 74, 83, Foucault, 1983, p 208, contra Chun, 2000, pp 572–576, Orellana, 1999, p 64) in which the harsh effects of "objectification" (de Certeau, 1986, p viii, Said, 2000, p 448, Strathern, 1996, p 177) are reversed and superseded by a kind of "resubjectification" that marks the end of the poststructural turn

Under intersubjective analysis, education researchers can study tensions caused by differences in power between social locations of each student, the faculty, and the dominant cultures of a campus and build "interconnectiveness" (Greer-Jarman, 2001) The ideal would be to overlay intersubjective analysis upon an existing survey instrument like Astin's Cooperative Institutional Research Program (CIRP) or Pace's College Student Experiences Questionnaire (CSEQ)

In the end, some combination of hybridity, border theory, and intersubjectivity will likely be needed to fully interpret, comprehend, and assess the transnational, gender enriched, and otherwise polyvocal text of student experiences on U S campuses today I favor the third—intersubjectivity—as an initial framework for higher education research, because it helps me see the power issues inherent in cultural interactions, does not presume a merger or assimilation of one culture into another, and reasserts the importance of a personal and social analytical framework in lieu of one based on institutionalized impacts or essentialized categories like "race"

B Interculturalism and Student Development

The following design therefore builds upon the strengths of modern student development theory Second, it adds to that base some of the important lessons from recent social theory Third, it imports hope for responsible reconstitution of academic structures, practices, and reward mechanisms Most importantly, this design reflects my own history and tradition as a third generation Japanese-American male traveling through higher education research, looking for but not finding toeholds and meaning Linked to this, the design reflects my self-interest in not marginalizing European Americans but rather in promoting for them an enhanced ability to participate as equals (who find meaning) in "intersubjective" exchanges On today's polycultural campuses, one might hypothesize that European Americans will undergo new identity formation in stages, similar to what Cross had found with African Americans, (see also Helms, 1990, Helms & Cook, 1999)

How would an intercultural theory of student development be translated into new research methods? Under an intercultural framework, the interactions between student, college, student major, family and close friends, and society are all considered important Questions will avoid culturally loaded terms that might imply assimilation into a dominant culture, like "persistence," "integration," "institutional departure," "underprepared," or "mainstream" What these words share with Tinto's use of “social and academic integration” is not an overt sense of ethnocentrism but rather a more dangerous research assumption that a student no matter his or her subjectivities must survive an institutional culture that is nowhere made a part of the analysis The fact that many students of color, or gays or lesbians, do “survive” and go on to rewarding careers does not lessen the harm they may have experienced during that survival process The point is to evaluate those differential experiences in relation to sources of culture and power within the institution

So rather than assign to European American culture the status of a neutral standard, the new perspective places all cultures and social positions under the same microscope, including the complex, shifting social locations of each European American male New questions will allow a researcher to assess the extent to which all cultural voices—based on ethnicity, gender, or sexual orientation for example—get validated on a campus Now we ask, “Does the faculty in your major support learning about your own cultural identity?” or “Do professors in your major promote an understanding of power relations on campus?” or “Do you feel the campus nurtures your sexual orientation?”

For example, though not meant to be exhaustive, an “intercultural theory of student development” might be reflected in survey questions added to Pace's CSEQ categories that examine distinctions in student perceptions about the social and cultural environment (specifically coded for this) that inhibit or nurture student effort in these ways

Under “Experience with Faculty,” add

- The professors in your major provide a safe environment in which to discuss your cultural identity or identities
- The professors in your major openly make their own power and authority a part of the discussion.
- The dominant racial or ethnic culture in your department major closely matches yours
- The professors in your major support the study of issues you consider most important
- I have experienced racial discrimination in grading
- The gender make-up of professors in your major is appropriate
- The racial make-up of professors in your major is diverse
- At least one professor has changed his or her thinking because of something I wrote or said in class

Under “Course Learning,” add (“Have you ”)

- Critiqued what counts as history and knowledge?
- Openly discussed the dominant culture on your campus?

- Learned how differences in power between men and women are sometimes overlooked in society?
- Discussed how power operates in race relations on your campus?
- Studied how power operates in business, government and education?
- Discussed gay and lesbian issues in a safe environment for such a dialogue?
- Learned from people from economic backgrounds different from yours?
- Been able to participate in class discussions about gender differences?
- Had the opportunity to give input into the make-up of a course syllabus?

Under "Personal Experience," add ("Have you . . .")

- Learned about your own privilege or disadvantage based on your racial identity?
- Found your campus a safe place in which to discuss differences in power with people of the opposite sex?
- Been able to affirm the positive value of your sexual orientation?
- Dated a person of a different race?
- Found that differences in economic class shape the way classmates behave toward you?
- Experienced gender discrimination by another student?
- Had the chance to view art that empowers women?
- Found that senior professors and deans support the nurturing of all cultural identities?

Still other questions can be added to address power relations in the department major regarding race, ethnicity, gender, sexual orientation, class, and physical "able-ness." Others can be added to examine interaction effects between institutional priorities, the student's family history, and personal growth in college. A reconstituted instrument can also inquire into issues of legitimacy or systemic collapse in the student's major field, the institution, or society, and whether the student feels he or she can make a difference. These are not just "add on" questions, but questions that change the whole thrust of the instrument away from a presumption of assimilation and toward a perspective that makes difference the core orientation, as urged earlier by McCarthy (1993). A reconstituted instrument would make a student's subject position and subjectivities the point of departure.

Here it should be noted that the questions I propose are presented to trigger debate and change Appearing as a "hodge-podge" of questions, they are intended to show the range of issues that need to be taken into account, they will need to be rewritten for clarity and conceptual coherence by redesigners of the instruments Thus, where Pace had originally stressed a student's "quality of effort," the questions posed here would extend the conceptual underpinnings of his instrument to encompass a "context-based analysis" (Hymes, 1996, p 212, Baxter Magolda, 1996, pp 298–299, Voloshinov, 1929/1973, pp 20–22) of student effort Added to student behavior are now various measures of that context perceptions of environment, new outcomes, views of people other than students, and so on It remains to be seen, however, whether a single instrument will be able to accommodate both theories of college impact and student development The breadth of questions listed above may radically alter the psychometrics of an instrument A revised instrument would have to be tested over time, and if the cost of making trade-offs is too high, a new instrument may be needed altogether

What I want to suggest is that a decision to maintain the conceptual integrity of a limited instrument may now be *more* harmful to future research than the risk of altering the psychometric properties that might come from broadening the scope of an instrument Instead of adding to existing categories in Pace's questionnaire, an entirely new section could be added Here, caution will need to be taken to avoid assuming that by simply adding a section dealing, for example, with power and gender, it will remove all responsibility to correct for culture bias in the rest of the instrument Alternatively, the instrument could contain one or two short answer essay questions or be administered in conjunction with focus groups (see e g , Levine & Cureton, 1998)

C *Implications for Future Research*

Seeking to combine lessons from social theory with strengths from modern student development theory, the above design features can give a researcher greater ability to track the cognitive and affective development of a student while deconstructing the play of power on college campuses The intention thus is not to bring to an end modernist efforts at assessing student development—which have already achieved the aims identified as important in the '70s and '80s—but to re-articulate them in the complex, shifting space of colleges and universities where issues of culture, power, and knowledge are increasingly salient In this *poly*cultural world, new methods are needed to reflect the fact that zones of intercultural contact are increasingly fecund

What this also means is that questions of construct validity may be mounting Researchers can no longer be confident about present measures of cognitive and social development without examining, for example, how a white student's learning is being impacted by diversity In fact, dividing students into simplistic categories like "Chicanos" or "Whites" or "gays and lesbians" may already be outdated New ways of contemplating research are now needed that reveal the *intersections* of multiple, shifting subjectivities and historical contexts for each student This may even equate one day to examining connections between higher education policy and the forces of global capitalism In other words, the five probes in this paper surface the possibility that there might be some benefit to launching a renewed examination of tropes for analysis in higher education research as a whole

Ultimately, the concept of intelligence may need to be revised to encompass a student's ability to make decisions and share knowledge in an increasingly intercultural human society Research itself will need to become more dialogical In this vein, collaborative teams and co-authorships across difference might yield co-writings that are more illuminating than lone writer efforts (e g , Leonardo, 1998, but see Anderson & Herr, 1999, p 16) Further, it appears that researchers will now need to be careful about the *kind* of power they examine in relation to college student development With the social terrain of today's campuses shifting and so complex, traditional definitions of power are also in flux What definitions of power might be best for college campuses that are becoming intercultural? Will this represent a sharing of control in a Western sense of power—or a more generalized and inchoate feeling of interconnectiveness molded out of intersubjective participation?

Once the door is opened to analysis of multiple, shifting, and intersecting subjectivities and subject positions, new questions must ultimately be raised about the usefulness of culture itself As a trope for analysis, "culture" seems too rigid, too binary, too awkwardly applied in the complex social terrain of the urban campus Indeed, an intersubjective approach might help shift the focus of research beyond monolithic notions of culture (and race) to the underlying forces of privilege and victim status that may hinder egalitarian learning in a polycultural space

There are also broader implications for how colleges and universities might reconstitute themselves in response to increasingly diverse student bodies At an "intercultural campus," institutional leaders might employ concepts from recent social theory to create spaces specifically for intersubjective exchange (e g , Alfaro, Coleman & McLaren, 1999, Edwards, Gandini & Forman, 1993, Pratt, 1995, pp 188–189, Tanaka & Flores, in press, Tharp, Estrada, Dalton & Yamauchi, 2001) At one university, $800,000 in grants was used to create intersubjective moments for what could become "the first intercultural university campus" in the United States (Tanaka, in press, Tanaka, Johnson, & Hu, 2001) In the wake of school shootings at Columbine and Santee, intersubjective storytelling could lead to a renewed sense of identity formation and belonging through teacher education

Conclusion

In questioning the assumptions underlying Tinto's research, Tierney may have signaled an even wider turn in higher education research than he might have imagined Having raised a legitimate question about who holds power to publish theories of student retention and development, he indirectly surfaced this larger concern Now squarely at issue is the question of whether higher education research is fast becoming an ethnocentric practice in the face of changing campus conditions, and if so, whether it might soon complete a "self-reflexive turn" by locating the power and culture of the researcher within the analysis In other words, from now on researchers *must locate themselves* within their analysis or risk being perceived as ethnocentric *and* monological Having pushed debate about the legitimacy of research on college student learning to the next level, Tierney thus leaves to other researchers the responsibility to examine *just how* their own positionalities (regarding voice, power, authenticity, self-reflexivity, and reconstitution) will affect the way in which new theory is constructed, knowledge is produced, and assessment is made In this press he is asking higher education research to critique itself

In view of these developments, this writing should be taken to heart as a call for higher education researchers to rearticulate the work of modern theorists and give fresh impetus to the field's future practice The recent willingness of a leading modernist to examine issues of power and authenticity lends a note of optimism to this project, and I am myself a beneficiary of that willingness

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Book Reviews

Cheating on Tests How To Do It, Detect It, and Prevent It, by Gregory J Cizek Mahwah, NJ
Lawrence Erlbaum Associates, 1999 268 pp $29 95

DONALD L McCABE, Rutgers University

Cheating on Tests is "an attempt to bring together what we know about cheating on tests" The book provides a comprehensive summary of the current research on test cheating, but some readers will be disappointed by its emphasis on breadth versus depth It is primarily a simple survey of the literature on test cheating, and this may be its greatest limitation

Cizek covers three broad topics a review of the research on how students cheat and how frequently they do so, an overview of the many correlates of cheating that have been discussed in the literature, and a discussion of how test givers can detect, respond to, and deter cheating In the final chapter, he promises "to refocus on the more distant, less pragmatic, but more important issues" However, after having completed Cizek's rapid tour of the literature on cheating, many readers may be disappointed to learn that these more important issues receive only limited attention in this final chapter This failure to provide a thoughtful synthesis of the extant research is a missed opportunity

Cizek's interpretation of the research on how often students cheat is straightforward—"nearly everyone is doing it" Yet I wonder if many readers really want to know the 15 different techniques by which students inappropriately give, take, or receive information during tests, the 21 different ways in which students might use forbidden materials during a test, or the 23 techniques by which a test taker may take advantage of the testing process in an inappropriate way I think many readers would gladly sacrifice information about students writing crib notes on tissues to learn more about forms of cheating enabled by new technologies, such as the Internet, which receive relatively little attention

In spite of his conclusion that "what we currently know about the correlates of cheating provides little useful information," I find Cizek's review of the factors associated with cheating on tests to be valuable For example, he identifies many classroom and environmental strategies that can easily be implemented by test givers to reduce cheating He also identifies several demographic characteristics and psychological constructs that seem important to understand for those who wish to develop more effective strategies for controlling cheating

Cizek's discussion of how to detect, respond to, and deter cheating is somewhat disappointing For example, his treatment of statistical methods for detecting cheating seems misplaced As Cizek himself acknowledges, statistical techniques "are severely limited to objective (e g , multiple-choice) testing situations involving fairly large numbers of examinees " I don't think the audience interested in such information is the same audience interested in classroom management techniques to detect and deter cheating Although Cizek expresses some concern about the reliability of simple observational methods, the most common strategy for detecting cheating, I think many readers would be interested in more such practical information If nothing else, it might provide some ideas for the many teachers who currently do nothing in the face of cheating, leading to a situation where "the chances of being caught are slim and the further chance of harsh punishment is nil," a situation that may contribute to even higher levels of cheating Although he is equivocal on the point, Cizek suggests more principled approaches such as honor codes may offer even greater potential as "they unashamedly communicate about the value of academic integrity and make upholding a high standard of honest behavior a responsibility of the entire community "

Cizek concludes by refocusing "on the more distant, less pragmatic, but more important issues " He does so by identifying "a few big questions" and "some small answers" that he thinks may result in "sustained discourse and action, regarding how we as educators and people, and the systems we create, can be reformed " His primary question is how we can be so schizophrenic in our attitudes toward cheating—on one hand protesting "the horror of cheating" and on the other often turning "a blind eye to the behavior" He is also concerned about the real purpose of education, believing the answer has implications for cheating on tests Cizek's answers are straightforward—the need to raise expectations concerning academic honesty (which he acknowledges may be accomplished with an honor code), systemic improvements (including a dramatic change in the attitudes of many teachers toward testing), and examining ourselves (hopefully leading us to become better role models for students) Although I personally agree with, and strongly support, these conclusions, I wonder why these issues were not developed more fully in earlier chapters The fact that they were not is unfortunate, because Cizek is arguably the only author to attempt such a comprehensive review of the cheating literature in recent years

Although this book will appeal to new researchers interested in learning about prior research on cheating, the lack of depth in Cizek's overview will limit the interest of experienced researchers The value to teachers will be limited by his failure to develop more fully the practical implications of the existing research on cheating, limited though they may be And I believe test givers involved with large scale testing will find Cizek's treatment of statistical strategies for detecting cheating too basic to be of any real value

One audience that could benefit from this book is school administrators and educational policymakers, especially those involved with elementary and secondary education As Cizek notes, these administrators and policymakers often contribute to a climate that actually discourages teachers from dealing with issues of cheating Perhaps a better understanding on their part of the pervasive nature and seriousness of the issue would encourage them to consider and address the "big questions" Cizek raises in his final chapter

Distinctively American The Residential Liberal Arts College, edited by Steven Koblik and Stephen R Graubard Somerset, NJ
Transaction Publishers, 2000 318+ pp $29 95

MICHAEL DELUCCHI, University of Hawaii-West Oahu

In the preface and foreword to *Distinctively American,* Steven Koblik and Stephen Graubard note that the rapid expansion of higher education in the United States following World War II, occurred primarily at public colleges and universities Consequently, residential liberal arts colleges came to represent a smaller proportion of the higher education population Today, less than 5 percent of all U S baccalaureate degrees are awarded at these institutions This is unfortunate, because the highest quality undergraduate education in the nation can still be found at residential liberal arts colleges Moreover, these institutions continue to produce disproportionate numbers of the nation's scientists and scholars Yet, according to the authors, even the best residential liberal arts colleges face an uncertain future Why? Forces beyond the influence of individual colleges, such as demographic shifts, increasing utilitarianism, market economics, and technology threaten the status and institutional soundness of liberal arts colleges

The edited volume presents fifteen essays on the origins, current condition, and future prospects of residential liberal arts colleges in the United States The first chapter, "The Making of the Liberal Arts College Identity" by Hugh Hawkins, explores the history of liberal arts colleges Hawkins notes that many institutions have been flexible enough to adapt to their changing social environments Chapters 2 and 3 examine the financial challenges facing liberal arts colleges Paul Neely describes how market forces beyond the control of individual institutions represent the primary economic threat to liberal arts colleges In chapter 3, Michael McPherson and Morton Owen Schapiro conclude that the current market situation in higher education has led less affluent, less prestigious liberal arts colleges to increase their emphasis on the strategic use of aid and pricing decisions

Alexander Astin identifies several positive student outcomes (e g , student satisfaction) associated with liberal arts colleges, together with an analysis of the environmental attributes (e g , small size) most responsible for these findings Peter Gomes, in "Affirmation and Adaptation Values and the Elite Residential College," suggests that by distancing themselves from their sectarian pasts, elite liberal arts colleges have lost a part of their mission that distinguishes them from larger secular institutions with which they now compete In chapter 6, Geoffrey Canada reminisces on his experience as a Bowdoin College student to highlight the impact of a residential liberal arts education on the process of democracy Eugene Lang's "Distinctively American The Liberal Arts College" calls on liberal arts colleges to revitalize themselves by including responsible citizenship as a discrete component of their missions

Chapters 8–14 focus on curricula Eva Brann argues that liberal arts colleges are more apt than universities to possess the independence and tradition necessary to deliver a coherent liberal arts curriculum In chapter 9, Richard Hersh suggests that a liberal arts education represents the very best in professional education Thomas Cech, in "Science at Liberal Arts Colleges A Better Education?" documents the success of these institutions in preparing students for graduate study and attempts to explain the role of liberal arts colleges in the production of scientists In chapter 11, Priscilla Laws, describes how curricula in the four major sciences, adopted at institutions throughout the country, were developed at liberal arts colleges Christina Elliot Sorum's "Vortex, Clouds, and Tongue New Problems in the Humanities" explains how the strong presence of humanities in general-education programs at liberal arts colleges increase student interest in the discipline In chapter 13, Susan Bourque attributes the success of liberal arts college graduates in attaining PhDs in the social sciences to student opportunities for involvement in original research projects Peter Stanley describes the affinity between international study and liberal learning In the final chapter, "Stability and Transformation Information Technology in Liberal Arts Colleges," Diane Balestri discusses the challenges of managing information technologies, together with the opportunities for shaping these technologies to serve the mission of liberal arts colleges

The primary weakness of this monograph is the unevenness in the quality of essays While several authors present cogent and well researched works, others are less focused and overlook the existence of some important literature A few authors state that their essays are not based on research nor extensive study, but rather on personal experience Though not without merit, such approaches lose credibility when juxtaposed with more scholarly works Nevertheless, the strength of the best essays leads me to recommend the volume to administrators, faculty, and scholars interested primarily in liberal arts colleges as well as those interested more generally in undergraduate education and liberal learning

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Market Values in American Higher Education The Pitfalls and Promises, by Charles W Smith Lanham, MD Rowan & Littlefield, 2000 232 pp $60 00

CHRISTOPHER C MORPHEW, University of Kansas

Market Values in Higher Education is similar in its reactive tone to several recent books that have attempted to address some of the trenchant analyses of higher education's efficiency and quality For example, Robert Birnbaum's recently published *Management Fads in Higher Education* also applies a critical and learned lens to the means by which those inside and outside the academy would "help" higher education to make itself more efficient Smith's book is unique, however, because of his (mostly successful) attempt to provide a qualitative economics-based discussion of the applicability of market values to higher education institutions His efforts ring true when they are reinforced with illustrative examples and footnotes that refer the reader to empirical studies that form a solid foundation for the author's analyses The book's explanations are marginalized, however, when Smith's descriptions of the academy seem more like the traditional justifications of the status quo For example, his description of the latent costs associated with hiring administrative experts seems unsupported Luckily for the reader, there are more instances of the former than the latter in this book

Market Values is separated into three distinct sections In Part 1, Smith responds to the "false economic diagnoses" that have been offered and applied to higher education institutions At one point in this section, Smith compares higher education costs and efficiencies with those of other organizations In doing so, he constructs a compelling argument that, when compared with the costs of educational programs offered by private businesses, the military, and other nonprofits, traditional higher education institutions appear quite efficient Even when using the average tuition cost of the most selective colleges and universities, Smith shows that higher education in the United States is a bargain when compared to the costs associated with educating and training new professionals outside traditional higher education institutions

Tackling the perception that higher education is too expensive—and has grown so as colleges and universities have dramatically raised their tuition—Smith examines several factors that are related to the perception and reality associated with higher education's costs In this section of the text, some of the author's explanations are similar to those put forward by Ron Ehrenberg in *Tuition Rising* However, Smith's explanations are more defensive than Ehrenberg's Although Smith admits that colleges and universities must shoulder some of the blame for pricing themselves too cheaply earlier in this century and for not adopting more appropriate accounting methods, his concluding point is that mismanagement is not to blame for higher education's high costs Smith contends that colleges and universities are attempting to do much more than their predecessors and, as a result, have raised their prices to reflect this reality Ehrenberg, on the other hand, is more critical of higher education's faculty and administrators and their unwillingness to confront the cases of increased costs

The strength of *Market Values in Higher Education* can be found in Part 2, where Smith provides a detailed analysis of why the one-size-fits-all economic cures of private business may not provide the same fruits when applied to higher education institutions Here, Smith's analysis is both sophisticated and easy to understand From his experience as a faculty member, department chair, and university-level administrator, Smith provides detailed explanations and examples to illustrate clearly how higher education is different and how the perceived inefficiencies of higher education have been misunderstood by those who critique colleges and universities from the outside looking in For example, Smith details how tenure—often criticized as a means of rewarding faculty who aren't productive—is more accurately viewed as an efficient means of retaining quality faculty members Similarly, while critics of the academy point to faculty governance as an illustration of the institutionalized inefficiency in higher education, Smith argues that faculty governance, because it reduces the number of administrators an institution requires and reinforces the expectations that faculty members have an important service function, is both an effective and efficient means of coordinating and governing a very complex organization

To his credit, Smith uses the final section of the book to delineate the "real issues" and problems confronting higher education in the United States and proposes a number of solutions to these issues He includes examples of how department chairs can work with their faculty members and reward productive programs and faculty members while preserving the collegiality and efficiencies associated with shared governance Moreover, his examples are not necessarily anti-market In fact, several of his proposals openly embrace selected market values, including awarding economic rewards for higher quality work This section of the book is important for the proactive examples it gives and the shield it provides for the author and his work After reading this section, the reader cannot help but believe that Smith is an advocate for both quality and efficiency in colleges and universities

Market Values is not based on primary data gathered specifically for testing a hypothesis or answering a specific research question Rather, it is an analytical work constructed on the strength of relevant research on higher education governance and the foundation of Smith's experience as a faculty member and sometime administrator, almost all of which occurred at Queens College, CUNY That said, this book is useful for academic audiences such as graduate courses in governance or finance, particularly as a means of counterbalancing critical analyses of higher education or works that promote strategic planning or total quality management as a cure-all for what ails colleges and universities The book would also serve as a good read for those who are new to higher education governance, particularly new members of state higher education agencies The text is useful because Smith provides a lucid, well-constructed analysis of how higher education is a different organizational animal Moreover, his defense of what higher education does well rings true, because he includes ideas and examples of how higher education can manage itself better

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Assessment Essentials Planning, Implementing, and Improving Assessment in Higher Education, by Catherine A Palomba and Trudy W Banta San Francisco Jossey-Bass, 1999 405 pp $32 95

LION F GARDINER, Rutgers University

Although assessment activities are now pervasive in American colleges and universities and consume substantial resources, few institutions seem to have exploited assessment's potential to produce significant gains in learning Meanwhile, pressure from accrediting agencies and state governments continues to grow for evidence of institutions' educational effectiveness And now, competition is burgeoning from numerous organizations offering opportunities for learning via the World Wide Web As a result, colleges and universities may also find their potential student "customers" far more demanding than in the past for information about their ability to foster learning *Assessment Essentials* can provide them with an excellent guide as they seek to document and enhance their educational impact

The book is divided into twelve chapters, followed by an extensive reference section and name and subject indices Chapter 1 describes six essential steps for any assessment program (1) agree on learning goals and objectives, (2) carefully design and implement assessment planning, (3) involve people widely, (4) select or design and implement means of collecting data, (5) study, disseminate, and act on assessment findings. and (6) reexamine the assessment process on a regular basis

Chapter 2 emphasizes the importance of being clear about purposes, definition of terms, and development of guidelines, organizing for assessment (leadership, committees, assessment offices), defining intended outcomes as clearly stated goals and objectives, and developing an assessment plan

Chapter 3 discusses the key issue of involving faculty members and students in assessment The authors rightly view involvement as central to the success of academic assessment They discuss ways of involving people, responsibilities and rewards for assessment work, barriers to assessment, and ethical issues when involving students

Chapter 4 deals with general issues when selecting assessment methods taking stock of current assessment activities, developing criteria to guide choice of methodology, ensuring that the technical qualities of reliability and validity are present, evaluating costs, considering the crucial issue of student motivation, and choosing among and implementing methods

Chapter 5 discusses performance measures, including "authentic" assessments that employ examples of students' work, such as oral examinations and performances, and portfolio assessment

Chapter 6 reviews paper-and-pencil tests and classroom assignments and assessment Chapter 7 deals with soliciting students' points of view by means of survey research, focus groups, and other qualitative methods

Chapter 8, "Relating Assessment to the World of Work," describes ways of involving alumni and employers in an assessment process and evaluating experiential education activities, such as internships, practica, and student teaching Sections show how to assess group work, team-building skills, and service learning

Chapter 9 addresses the nature of general education and lays out the issues involved and choices available when assessing outcomes such as critical thinking, writing, oral communication, problem solving, ethical reasoning, and values and attitudes A final section deals with assessing general education outcomes in major fields

Chapter 10 explores ways of describing and understanding the campus environment as students experience it The authors provide diverse methods for analyzing a curriculum and students' experiences with the curriculum and the institution more broadly

Chapter 11 constitutes an extensive and important discussion of reporting and using assessment results

The last chapter discusses choices in assessment, such as the dual purposes of accountability and improvement, course-based and programmatic assessment, a focus on individual students or programs, and whether to use value-added or comprehensive longitudinal methodologies

The authors pose an additional dichotomy between viewing assessment as merely another task to be given to the faculty and staff or as a powerful tool for creating profound cultural change that can lead to significantly increased learning The chapter and book conclude by suggesting there is no choice, however, about doing assessment It is integral to our work as educators

Catherine A Palomba is director of the Offices of Assessment and Institutional Research at Ball State University Trudy W Banta is professor of higher education and vice chancellor for planning and institutional improvement at Indiana University-Purdue University Indianapolis Both authors have extensive experience working with faculty members and administrators conducting assessment Banta has authored other books describing diverse assessment activities on numerous campuses across the United States (Banta & Associates, 1993, Banta, Lund, Black, & Oblander, 1996)

Using both the voluminous literature of assessment and their own professional experience, the authors provide readers with an overview of each topic, the strengths and weaknesses of alternative methods, and large numbers of detailed practical examples in institutions from various sectors of higher education They address both the academic and cocurricular components of students' experiences and focus on learning

A strength of this book, and one that sets it apart from some other writing about assessment, is its emphasis on the importance of being clear about intended outcomes before designing assessments of actual outcomes At virtually every point the authors underscore the need to specify clear outcome goals and objectives This emphasis counters a common tendency to rush into assessment without giving adequate time and thought to clearly articulating what is to be assessed

The skills and dispositions of critical thinking are outcomes of singular personal and societal value, and most colleges and universities need to become much more effective in producing them The authors provide a concise and useful review of modern attempts to define the meaning and scope of critical thinking and ways of assessing students' abilities as critical thinkers

Other characteristics of *Assessment Essentials* that distinguish the book from various other accounts of assessment are that it is not limited to any particular model of assessment but draws freely from many theoreticians It is solidly grounded in faculty experience in diverse types of institutions, and it presents a holistic and smoothly integrated review of best practice at the basic level

This aptly titled book is written for faculty and staff members and administrators who are planning and implementing a program of assessment and attempting to interpret and use its results This is an ideal place for novices to begin their attempt to understand the uses and potential of assessment in higher education However, there is plenty of useful information and advice for more experienced practitioners as well, and the authors frequently direct readers to more specialized resources they may need in particular situations

Academicians will find that this practical volume can provide them with the guidance they need to develop effective means of collecting, interpreting, and using evidence about their students, about outcomes, educational processes, and improving their effectiveness and efficiency in producing learning

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Women Becoming Mathematicians, by Margaret Murray
Cambridge, MA MIT Press, 2000 304 pp $29 95 ($16 95)

JERILEE GRANDY, Independent Research Consultant, Flagstaff, AZ

This engaging book explores the personal and professional development of women mathematicians during the 1940s and 1950s, when the number of mathematics PhDs awarded to women dropped to an all-time low Murray reports the results of in-depth interviews with 36 women mathematicians who struggled against the postwar cultural norms that defined a woman's place as in the home

The preface and first two chapters provide a historic framework, directing the reader's attention to one significant observation Between 1910 and 1939, women earned roughly 14% of the mathematics PhDs awarded in this country, since 1980 women have earned over 17% But during the intervening years that figure dropped to below 5% During the 1940s and 1950s, in particular, women mathematicians became token minorities, caught between the cultural demands of the "housewives' generation" and their professional ambitions In subsequent chapters, Murray examines the social, cultural, and personal backgrounds of 36 women mathematicians who earned their doctorates during those two decades Her goal was to understand, through extensive interviews, how women succeeded in mathematics at a time when social and cultural forces were least supportive—when women mathematicians had to rely most heavily on their own resources to persevere in work they loved

Chapter 3 explores the family backgrounds of the 36 case studies, introducing various women in the context of their childhood experiences A conclusion that the reader will begin to formulate is that there were no consistent characteristics or patterns in the early lives of these successful women

In Chapter 4 Murray notes that for adolescent boys, the pursuit of individual goals and dreams is normally not incompatible with cultural expectations For teenage girls, however, adolescence is a time of crisis, when the inner drive to follow their own interests comes into direct conflict with the cultural expectations of marriage and motherhood Murray explores some of the contradictory effects of high school on the women in the study as well as both the barriers and the encouragement they encountered in college

Chapter 5 explores the graduate school experiences of the 36 women Murray observes and attempts to explain some dramatic differences between the doctorates awarded in the 1950s compared with the 1940s

Chapters 4 and 5 both identify many of the colleges and graduate schools attended by the women in the study, as well as the obstacles they encountered at those institutions and the specific professors who provided encouragement Readers are likely to have had personal connections with some of these institutions and may recognize the mathematicians named

In Chapters 6 and 7, we see that the struggle does not end with the achievement of the PhD One wonders how any woman of that era was able to realize her dreams under such adversity Today's problems of juggling personal and family responsibilities seem trivial by comparison, yet, even under the darkest of employment conditions, there were lights of reason and compassion enabling most of these women to find satisfying work in mathematics

In the last chapter Murray outlines five dimensions of personal and professional success based on the 36 interviews She discusses the interviewees' tendency to attribute their success to factors outside of themselves, such as "luck" or "timing" After reading the book, we may conclude that the success of women mathematicians is not easily explained in terms of family history or environmental factors The reader may be left with the discomforting thought that the mechanism of their success may always lie hidden in their innermost selves

Readers will find that this book provides informative, and sometimes surprising, historical background to set the stage for the in-depth interviews Murray also provides an excellent compilation of references and notes Descriptions of the lives of the 36 women are dispassionate, yet the reader can connect on a personal level and empathize with the women's experiences Unlike many authors who take either a "scientific" perspective or a strictly phenomenological approach, this book permits the reader to move from one level to the other, from examining the facts to empathizing with an individual

Over the past two decades, volumes of research on the underrepresentation of women in mathematics, science, and engineering have been published In sharp contrast to the cultural norms of the 1940s and 1950s, the current trend is to encourage girls to enjoy mathematics and consider careers that use quantitative skills Many of the struggles endured by the interviewees in Murray's study were not unique to women mathematicians, but were shared by women attempting to become professionals in any field After finishing Murray's book, readers may wish to revisit Betty Friedan's *The Feminine Mystique*, viewing it in a retrospective light

It is difficult to find serious fault with the book, unless it is the tendency to present an abundance of detail without a satisfactory set of conclusions The final chapter covers barely seven pages Murray clearly spent time, creative thought, and analysis on this project, yet in Chapter 8 she appears to have dropped the ball This final chapter has the potential to provide not only a summary of patterns, but to tie those patterns into past research in sociological and psychological theory, to develop new theory, to lead the reader into new research realms, and to outline some practical implications of what the study revealed Nevertheless, the fact that there is no conclusive theory presented to explain why these women were successful is not itself a legitimate criticism of the book Probably the next step would be to interview 36 women who intended to become mathematicians but did not succeed Then contrasts could be drawn and elements of success identified–maybe

A minor frustration is that the statistics presented in tables at the beginning would have greater impact if they were graphed Readers, who undoubtedly will rank high in mathematical literacy, may find themselves plotting the contents of the table on doctorates earned in mathematics Graphs showing these trends would have conveyed a far more powerful image of the book's central issue than the tables are able to do

One observation that Murray may have overlooked is that none of the women seemed to be stressed by internal conflict The interviewees appeared to direct their energy into creating satisfying lives in an uncooperative world There was no hint that some women might have wondered whether they had a "right" to be mathematicians, whether they "deserved" to have greater happiness than they might have had as housewives None of the interview material seemed to suggest that any of the women felt guilty for wanting a self-fulfilling life or that they struggled against a deeply rooted moral code insisting that women be full-time wives and mothers because the universe was somehow designed that way Rather than having an internal conflict, these women seem to have been challenged by adversity and to struggle against cultural norms whose validity they questioned

This book will interest not only women mathematicians (and their families), but will find a readership among historians of science, sociologists, and educators, and perhaps most importantly, among all women who continue to struggle with personal and professional identity

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Creating Contexts for Learning and Self-Authorship Constructive Developmental Pedagogy, by Marcia Baxter Magolda Nashville, TN Vanderbilt University Press, 1999 320 p $49 95 ($24 95)

GREGORY S BLIMLING, Appalachian State University

Have you ever wondered what it would be like to teach a course where you didn't lecture, where class discussions focused on what students had discovered was important, and where you surrendered your status as knowledge giver to a new role as facilitator and co-learner? In *Creating Contexts for Learning and Self-Authorship*, Marcia Baxter Magolda identifies a pedagogical approach to student learning that makes such a course format possible Her approach is based on an understanding of how students construct knowledge and how the construction of knowledge relates to the ideas they form about themselves

College faculty want students who can think independently, debate ideas, are motivated for independent learning, and are capable of using a wide range of information to make decisions Unfortunately, the most widely used teaching methods—lecturing, multiple choice tests, reading assignments, and brief class discussions—are not very effective in achieving these outcomes Despite this knowledge, most college faculty teach according to the method by which they were taught, regardless of its effectiveness Baxter Magolda offers an alternative She calls it "constructive developmental pedagogy" Her pedagogical approach is based on the assumption that students construct knowledge through a process of making meaning of their own experiences The goal is self-authorship, a process of self-reflection resulting in an organization of thoughts and feelings to form an opinion or decision

The constructive developmental approach grew from Baxter Magolda's research on epistemological development of college students and continued for eight years beyond college Through a process of annual interviews, she explored students' thoughts about faculty, learning, peers, and ways they learned In this book, Baxter Magolda briefly reviews her research on epistemological development and then focuses on four courses that she and another researcher either taught or observed others teach In a detailed account of the way the courses were taught, the questions instructors asked, and an examination of how the discussions proceeded in the class, Baxter Magolda constructs a pedagogical approach based on three principles (1) validating students as knowers, (2) situating learning in students' own experience, and (3) defining learning as mutually constructing meaning When students are validated as knowers, they are recognized as capable and their viewpoint is respected Situating learning in students' own experiences involves using the experiences of students as the starting point for learning Instead of starting from a faculty viewpoint, the instructor is forced to think about knowledge in the way students construct knowledge from their experience and then help students build on what they already know Defining learning as mutually constructing meaning requires both teacher and student to share the learning process Together, students and the faculty member make meaning of experiences based on the available evidence

Baxter Magolda uses an inductive approach to reveal the outcomes of her research Much of the book is constructed of dialogue between teachers and students The reader is invited to draw his or her own assessments of this evidence The author offers her perspective and interpretation and then weaves these together into relationships between students' ways of knowing and various pedagogical approaches

The pedagogical components and underlying assumptions of the book come from a social constructivist perspective consistent with educators such as Kenneth Burffee (1993), Henry Giroux (1988), and Ira Shor (1992) All of these educational reformers focus on learning-centered educational practice Although Baxter Magolda's book is part of this educational reform literature, it differs from these books in three ways First, the book offers a pedagogical approach focused on both self-authorship and subject mastery Second, this pedagogical approach is linked to students' cognitive development in a way that helps students move toward self-authorship And third, the book identifies both the structure and the process for implementing constructive developmental pedagogy in a way consistent with students' epistemological development

Baxter Magolda does acknowledge some difficulties with implementing her pedagogical approach Because the idea that knowledge is socially constructed is in conflict with the way students who are "absolute knowers" perceive knowledge, these students resist this pedagogical approach The author challenges the notion that students are less sophisticated learners than teachers and that teachers are responsible for insuring that students master the subject matter The pedagogical approach raises some concerns that course content could be sacrificed, faculty could lose classroom control, and that students cannot objectively evaluate their own work However, Baxter Magolda addresses each of these concerns and provides evidence that such chaos is unlikely to result from the more open learning experience she proposes Problems she does identify are (1) creating transitional cultures for students who use absolute assumptions about knowledge, (2) effectively facilitating the conflict that emerges when multiple voices are encouraged, and (3) effectively connecting multiple ways of making meaning in the same course Although these are dilemmas, Baxter Magolda offers cogent guidance on how to mediate them

Faculty engaged in the ongoing conversation about pedagogical reform will find this book a necessary part of their library, as will faculty interested in ways to improve their teaching Graduate students in education and serious scholars interested in understanding the process by which students learn will find this book of great value The inductive approach of relating the experiences of students and faculty who have engaged in this form of pedagogy may not please everyone who uses this book It forces one to reflect on the text and stories of others, to draw independent conclusions, and compare one's ideas to those offered by the author In this way, the book is constructed to allow a form of mutual meaning-making Although I did not find myself arguing with the conclusions she drew, it was a somewhat different approach than what one customarily finds in scholarly books

If you want to improve the learning experience of students and teach a course where students are challenged to give their own interpretations, to draw their own conclusions, to present their ideas to others, and to hear what other people in the class have to say about it, this book will show you how Baxter Magolda is a good scholar, and this book is well worth reading

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Sex, Race, and Merit Debating Affirmative Action in Education and Employment, edited by Faye J Crosby and Cheryl VanDeVeer Ann Arbor The University of Michigan Press, 2000 352 pp $22 95 (paper)

M CHRISTOPHER BROWN II, The Pennsylvania State University

The year 1998 marked the twentieth anniversary of the United States Supreme Court ruling in the case of the *Regents of the University of California, Davis v Bakke* (1978) In the Bakke case, the Supreme Court declared that race could be utilized as one of many collegiate admissions factors in order to promote diversity in higher education The *Bakke* case therefore sanctioned the use of affirmative action to promote equity through diversifying student admissions The national focus on institutional diversity originally began with *Brown v Board of Education, Topeka* (1954) The *Brown* case posited that the integration of various races and ethnic groups in the educational environment led to increased student outcomes The *Bakke* case merely affirmed the contentions of *Brown*

Interestingly enough, the twenty-year anniversary of the *Bakke* ruling was not a year of celebration In fact, it was a year of serious legal and academic ambivalence regarding the benefits and appropriateness of affirmative action-based diversity initiatives From the pro-affirmative action community, the year yielded the publication of Bowen and Bok's (1998) study of accrued lifelong gains to students who attended campuses with strong affirmative action programs and admissions From the anti-affirmative action community, the year heralded the implementation of California's Proposition 209, which delimits the use of affirmative action in public colleges and universities To date sixteen states are considering initiatives like California's Proposition 209 and/or face legal action against a state institution engaged in affirmative action activities (Center for Individual Rights, 1998)

In an effort to document the reason and rhetoric of the affirmative action battle over the last several years, Crosby and VanDeVeer (2000) have compiled a collection of previously published articles, book chapters, newspaper articles, public commentary, and legal cases *Sex, Race, and Merit* places the key documents in the battle over affirmative action between its bonded cover The book homogenizes the high-pitched oratory of the voices both pro and con into one harmonious soliloquy

Sex, Race, and Merit seeks a place at the table of scholarly discourse on equity and access in postsecondary education However, the book falls short The literature on affirmative action in higher education has exploded over the last three years Scholars like Feinberg (1997) and Lawrence and Matsuda (1997) have attempted to make the case for affirmative action As aforementioned, Bowen and Bok (1998) similarly offered the field a detailed treatment of the positive experiences and outcomes of beneficiaries of affirmative action There is also a growing body of literature on the need for equality of educational opportunity and outcomes in higher education (Brown, 1999, Delgado, 1999, Lowe, 1999, Reed, 1999) The difference between these books and *Sex, Race, and Merit* is scholarship Each of the other volumes are research-based monographs Crosby and VanDeVeer offer no original research of their own They offer clips and snippets of polemic arguments on affirmative actions interspersed with miscellaneous documents Conversely, the edited volume by Post and Rogin (1998) does proffer an edited collective of scholarly voices on affirmative action Post and Rogin's volume may have been Crosby and VanDeVeer's aim

The missing scholarship makes it difficult to position this book within the larger affirmative action conversation Notwithstanding, the selected writings can aid a novitiate reader gain a firm grasp of the stances and arguments within the debate Additionally, the inclusion of key legal resources will also be useful for beginning readers Hence, *Sex, Race, and Merit* is a crash course on the key issues in the dispute over affirmative action policy However, for the informed reader the book will prove redundant and disappointing

Notwithstanding, a larger conundrum exists as it relates to this book and the other texts cited above Neither *Sex, Race, and Merit* nor the other volumes answer the fundamental questions facing college campuses First, is it still permissible, based on recent lower court rulings, to utilize the guidelines for collegiate admissions affirmed in the *Bakke* case? Second, what is the empirical evidence that campus diversity impacts, albeit positively, student outcomes? Higher education researchers and policy analysts must attend to these questions

Despite its scholastic shortcomings, *Sex, Race, and Merit* is a welcome addition to the literature as a primer on the affirmative action in higher education debate It reminds higher education personnel and observers that the issue of affirmative action is still important Simultaneously, it reminds us that we still have not proven our case—pro or con

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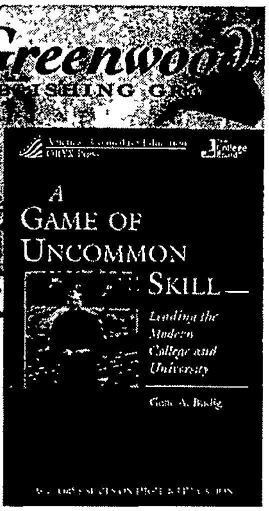
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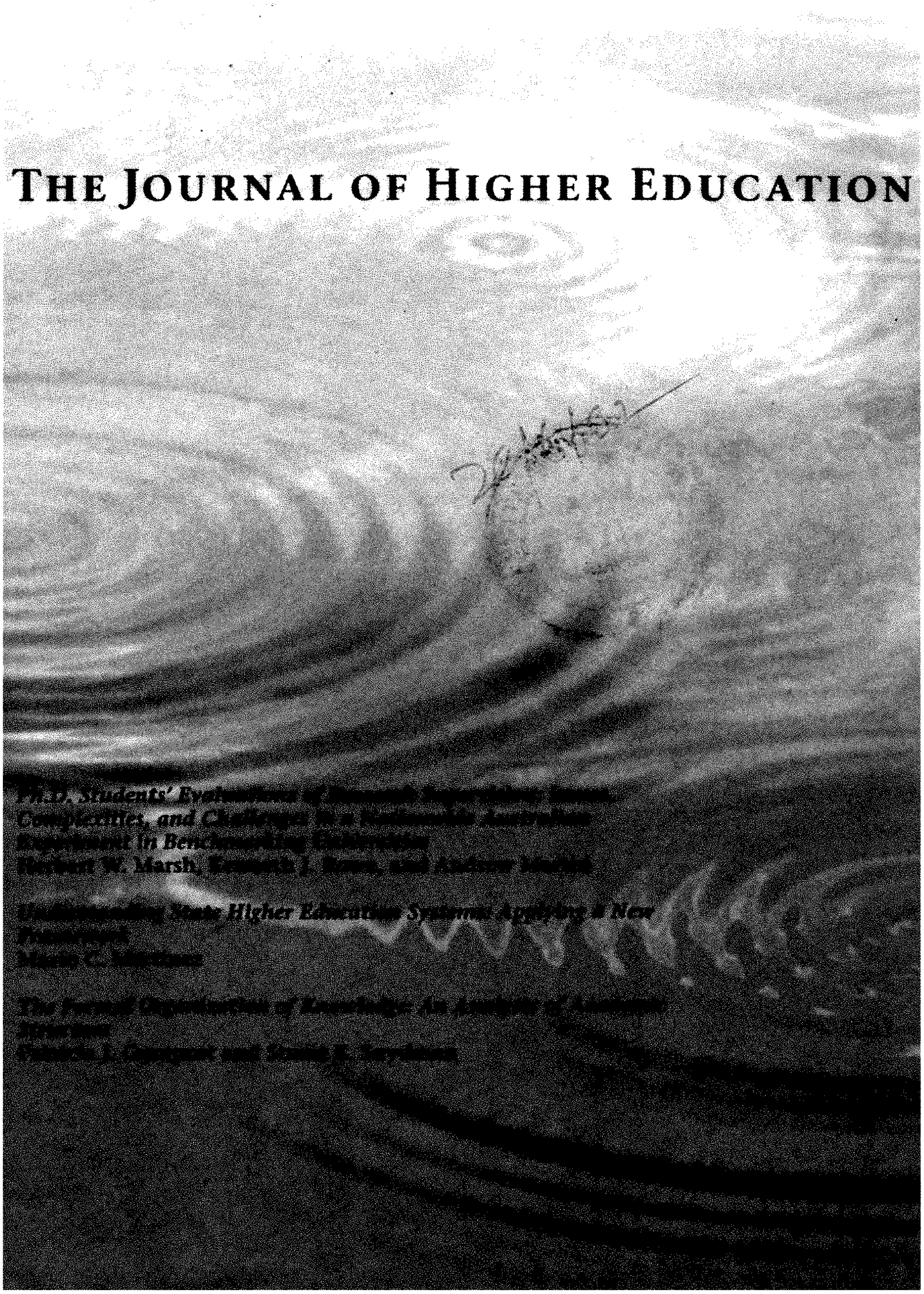

Ph.D. Students' Evaluations of Research Supervision: Issues, Complexities, and Challenges in a Nationwide Australian Experiment in Benchmarking Universities
Herbert W. Marsh, Kenneth J. Rowe, and Andrew Martin

Understanding State Higher Education Systems: Applying a New Framework
Mario C. Martinez

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Patricia J. Gumport and Stuart K. Snydman

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May/June 2002
Vol 73, No 3

The Journal of Higher Education

HERBERT W MARSH, KENNETH J ROWE, and ANDREW MARTIN 313

Ph.D. Students' Evaluations of Research Supervision: Issues, Complexities, and Challenges in a Nationwide Australian Experiment in Benchmarking Universities

Ph D and research students' evaluations of supervision were collected across Australian universities to provide an extensive assessment of the quality of research supervision and appropriateness of research facilities Here we evaluate issues, complexities, challenges, and appropriateness for using such ratings to make benchmarking comparisons between different universities and programs

MARIO C MARTINEZ 349

Understanding State Higher Education Systems: Applying a New Framework

A recent framework and its accompanying definitions of a higher education system are applied to describe and analyze South Dakota's higher education system The framework proved to be a useful lens to view policy-driven change in the case state Additional considerations are discussed that arose as a result of applying the framework

PATRICIA J GUMPORT and STUART K SNYDMAN 375

The Formal Organization of Knowledge. An Analysis of Academic Structure

This article provides a rationale and illustrative data for the longitudinal study of the formal organization of knowledge Focusing on two dimensions of academic structure, the authors find an increase in degree programs offered in contrast to relative stability in departmental structure This pattern indicates a structural capacity for academic organizations to respond to divergent expectations for change and stability

REVIEW ESSAY

REVIEWED BY JOHN R THELIN 409

Academics on Athletics
Onward to Victory The Crises that Shaped College Sports,
by Murray Sperber

Unpaid Professionals Commercialism and Conflict in Big-Time College Sports, by Andrew Zimbalist

Unsportsmanlike Conduct Exploiting College Athletes, by Walter Byers with Charles Hammer

BOOK REVIEWS

The University Gets Religion Religious Studies in American Higher Education, by D G Hart
REVIEWED BY PHILO A HUTCHESON 420

Civic Responsibility and Higher Education,
edited by Thomas Ehrlich
REVIEWED BY JOHN P MYERS 423

Multiple and Intersecting Identities in Qualitative Research,
edited by Betty M Merchant and Arlette Ingram Willis
REVIEWED BY SUSAN R JONES 427

Separate by Degree Women Students' Experiences in Single-Sex and Coeducational Colleges, by Leslie Miller-Bernal
REVIEWED BY LISA E WOLF-WENDEL 431

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Herbert W. Marsh
Kenneth J. Rowe
Andrew Martin

PhD Students' Evaluations of Research Supervision

Issues, Complexities, and Challenges in a Nationwide Australian Experiment in Benchmarking Universities

Introduction

Universities throughout the world are undertaking benchmarking exercises in which they compare themselves to other universities on appropriate indices in order to establish their current levels of performance and to initiate continuous self-improvement (see

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This article is based on an earlier paper commissioned and distributed by the Australian Council of Deans and Directors of Graduate Students and presented to a meeting of Australian Pro Vice Chancellors of Research and, subsequently, at the Postgraduate Research Experience Questionnaire (PREQ) Seminar that was organized by the Graduate Careers Council of Australia in association with the Australian Department of Education, Training, and Youth Affairs We would like to thank the Australian Council for Educational Research and Bruce Guthrie of the Graduate Careers Council of Australia who provided us with draft reports and the data used in this article In addition, we would like to acknowledge the Australian Council of Educational Research for their work in assembling and preparing data files that facilitated our research and for earlier analyses of these data conducted by Gerry Elsworth, Adrian Harvey-Beavis, and Sue Fullarton We would also like to thank Kit-Tai Hau, Kate Johnson, Wijesir Jayasinghe, and members of the Australian Council of Deans and Directors of Graduate Studies for helpful comments on earlier versions of this draft We emphasize, however, that our interpretations of the results are our responsibility and may not be in agreement with those of persons and organizations whom we have acknowledged This research was funded in part through a grant to the first author from the Australian Research Council Correspondence in relation to this article should be sent to Professor Herbert W Marsh, SELF Research Centre, Bankstown Campus, University of Western Sydney, Penrith South NSW, 1797, Australia (h.marsh@uws.edu.au)

Herbert W Marsh is director, Self-concept Enhancement and Learning Facilitation Research Centre, Bankstown Campus, University of Western Sydney, Kenneth J Rowe is principal research fellow at the Australian Council for Educational Research, The University of Melbourne, and Andrew J Martin is postdoctoral scholar, Self-concept Enhancement and Learning Facilitation Research Centre, Bankstown Campus, University of Western Sydney

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overview by McKinnon, Walker, & Davis, 2000, for a description of Australian benchmarking, related information from other countries can be found through relevant websites for the United Kingdom [www.niss.ac.uk/education/qaa/], NZ [www.aau.ac.nz/], and the USA [www.chea.org/]). In order to pursue benchmarking exercises, there is a need for a comprehensive set of benchmark indicators that focus on outcomes, measure functional effectiveness rather than superficial criteria (i.e., are chosen because they are easily "countable"), are systematically developed to have good content (and "face") validity, and differentiate between universities to provide appropriate standards as a basis of ascertaining excellence and continuous improvement. In the present investigation we explore some of the issues, complexities, and challenges in attempting to benchmark the quality of research supervision of research and PhD students across a large sample of universities and across similar disciplines in different universities.

Within such a benchmarking framework, it is particularly difficult to establish appropriate outcomes to measure the effectiveness of programs for PhD and postgraduate research students. Even at the undergraduate teaching level where there is widespread use of students' evaluations of teaching effectiveness, there is a limited basis for making comparisons across universities or across similar academic departments from different universities. At the PhD level, there is little research into the systematic use of student surveys to evaluate the quality of PhD research supervision and, apparently, no research that attempts to compare effectiveness across large numbers of different universities. Within the broader context of a benchmarking exercise there is a need for the examination of substantive issues relevant to the evaluation of research student supervision, the development and evaluation of an appropriate survey instrument for collecting the data, and methodological issues associated with the appropriate analysis of such data. Hence, within the broader issue of evaluating a large-scale experiment in benchmarking, the purposes of the present investigation are to (a) describe the extensive development of the Postgraduate Research Experience Questionnaire (PREQ), which is designed to measure the extent to which PhD and postgraduate research students have satisfactory experiences in relation to the quality of their research supervision, and (b) to evaluate the usefulness of ratings by PhD and postgraduate students' evaluations of their postgraduate research and supervisory experience (hereafter referred to as PhD students' evaluations) for making benchmark comparisons across universities and academic disciplines.[1] Because of the dearth of previous research in this area and the scope of the present investigation, the results should be of broad relevance to PhD-granting universities throughout the world

The multilevel modeling perspective demonstrated in this study is also important for higher education research (see Ethington, 1996) Almost all data in higher education are inherently multilevel, even though this feature of the data is typically ignored Depending on the application, the different levels of analysis might include countries, geographic regions or states, different universities, faculties or departments within universities, and individual students or academic staff As illustrated in the present investigation, research, policy questions, data, and statistical analyses that are appropriate at one level of analysis may be inappropriate or even misleading when evaluated at another level of analysis Although Ethington's (1996) handbook chapter clearly establishes the relevance of this methodological approach in higher education research, there are few examples of substantive studies in higher education that have used it, so that the present investigation helps fill this gap between appropriate and typical research practice

The substantive issue—the effectiveness of research supervision and the use of PhD students' evaluations as an indicator of this effectiveness—is our main focus and an important concern in higher education Although there is a vast research literature on undergraduate students' evaluations of classroom teaching effectiveness and some research on the quality of supervision of research and PhD students (e g , Anderson & Swazey, 1998, Hockey, 1995, Holdaway, 1996, Pearson, 1996), there is little research on the reliability and validity of PhD students' evaluations For this reason, we begin with a review of the use of student ratings to evaluate teaching effectiveness where there is an extensive research literature and well-established results that are relevant to an evaluation of PhD students' evaluations

Students' Evaluations of Teaching Effectiveness

In higher education, there is a long history of research and much debate into the use of students' evaluations of teaching effectiveness (e g , d'Apollonia & Abrami, 1997, Feldman, 1997, 1998, Greenwald & Gillmore, 1997, Marsh & Roche, 1997, 2000, McKeachie, 1997a, 1997b) Effective teaching is a hypothetical construct for which there is no adequate single indicator Hence, the validity of students' evaluations of teaching or of any other indicator of effective teaching must be demonstrated through a construct validation approach Extensive reviews of this research (e g , Abrami, d'Apollonia, & Cohen, 1990, Cashin, 1988, Cohen, 1980, Feldman, 1989a, 1989b, 1997, 1998, Marsh, 1984, 1987, Marsh & Dunkin, 1997, McKeachie, 1979, 1997a, 1997b) have consistently shown that, with careful attention to measurement and theoretical issues, students' evaluations of teaching are (1) multidimensional, (2) reliable and stable, (3) primarily a function of the instructor who teaches a course rather than the course that is taught, (4) relatively valid against a variety of indicators of effective teaching, (5) relatively unaffected by a variety of variables hypothesized as potential biases, such as expected course grades, class size, workload and prior subject interest, and (6) demonstrably useful in improving teaching effectiveness when coupled with concrete enhancement strategies in specific areas that teachers target for improvement Emphasizing the individual teacher (or class-average) as the appropriate unit of analysis for students' evaluations of teaching effectiveness, Marsh and Roche (1997, also see Marsh, 1987) stressed that analyses must be conducted at the appropriate unit of analysis in relation to the intended use of the ratings This student evaluation research provides one model of an ongoing research program to evaluate the reliability, stability, factor structure, construct validity, potential biases, and usefulness for improving practice based on PhD students' evaluations of their supervisors

Unit of Analysis Problem

The appropriate unit of analysis is a critical methodological issue in student evaluation research that has particular relevance to our evaluation of PhD students' evaluations Fortunately, however, there is a clear consensus in student evaluation research that the class-average or individual teacher is the appropriate unit of analysis rather than the individual student (e g , Marsh, 1987) Thus, support for the construct validity of student evaluation responses can only be demonstrated at the class-average level and the reliability of responses is most appropriately determined from studies of interrater agreement that assess error due to the lack of agreement among different students within the same course (see Gillmore, Kane, & Naccarato, 1978 for further discussion) The correlation between responses by any two students in the same class (i e , the single-rater reliability, Marsh, 1987) is typically in the 0 20s However, the reliability of the *class-average* responses depends upon the extent of agreement among students within the same class and the number of students rating the class 0 95 for 50 students, 0 90 for 25 students, 0 74 for 10 students, and 0 60 for 5 students Given a sufficient number of students in any one class (or, perhaps, averaged across different classes taught by the same teacher if the number of students in any one class is less than 20) the reliability of class-average ratings is very good. Similarly, support for the construct validity of student evaluation responses must be demonstrated at the class-average level (e.g., relations with class-average achievement, teacher self-evaluations).

In trying to separate the effects of the teacher and the course, Marsh (1987, Marsh & Dunkin, 1997) reported that the correlation between overall teacher ratings of different instructors teaching the same course (i.e., a course effect) was –0.05, whereas correlations for the same instructor in different courses (0.61) and in two different offerings of the same course (0.72) were much larger. These results support the validity of student evaluations as a measure of teacher effectiveness, but not as a measure of the course quality that is independent of the teacher. Marsh and Bailey (1993) further demonstrated that each teacher has a characteristic profile on the different evaluation factors (e.g., high on organization and low on enthusiasm) that was distinct from the profiles of other instructors and generalized across course offerings over a 13-year period. Although there is some research suggesting discipline differences (e.g., a weak tendency for higher ratings in humanities and lower ratings in sciences, see Centra, 1993), these effects account for very little variance and there is ongoing debate about how these differences should be interpreted. Indeed, in many student evaluation programs, ratings for a given class are "normed" in relation to similar classes (similar in terms of student composition, level, and discipline), implying that such differences may not be important.

Hence, at least for the content of items typically considered in this student evaluation research (e.g., enthusiasm, learning/value, organization, rapport, group interaction, breadth of coverage, examinations), the appropriate unit of analysis is the individual teacher and not the individual student. Although it may be possible to construct an alternative set of items that would capture the quality of a course or program that was reasonably independent of the effects of specific teachers, there is little empirical support for this possibility in the student evaluation literature. This conclusion is particularly relevant for the present investigation of PhD students' evaluations in which our focus is on the overall postgraduate experience at the broad level of the university and disciplines within a university rather than on the effectiveness of individual supervisors. Extrapolations from student evaluation of teaching research suggest that there should be considerable variation at the level of individual supervisors if there are a sufficient number of ratings for each supervisor, but little or no variation at the level of the discipline or university. Hence, we argue that the unit of analysis issue is one of the critical complexities in the appropriate analysis of PhD students' evaluations, so that a methodological focus on multilevel modeling is an important component in the evaluation of these issues

Students' Evaluations Can Lead to Improved Teaching

One intended purpose of PhD students' evaluations is to provide informative feedback that will lead to the improvement of research supervision There is clear evidence that feedback from students' evaluations of teaching, coupled with appropriate consultation, can lead to improved teaching effectiveness (see reviews by Cohen, 1980, L'Hommedieu, Menges, & Brinko, 1990, Marsh, 1987, Marsh & Dunkin, 1997, Marsh & Roche, 1993) For example, in a study by Marsh and Roche (1993), randomly assigned intervention- and control-group teachers completed self-evaluations and were evaluated by students before and after the intervention An essential component of the intervention was a set of teaching strategy booklets—one for each factor on the student evaluation instrument Teachers selected the factor to be targeted in their individually structured intervention and then selected the most appropriate strategies from a book of strategies relevant to that factor The intervention teachers improved significantly more than control group teachers Furthermore, for the intervention group (compared to control group), targeted dimensions improved substantially more than nontargeted dimensions The study demonstrated that feedback from students' evaluations of teaching and consultation are an effective means of improving teaching effectiveness It is important to note that this intervention can only be conducted with a well-designed, multidimensional instrument and that the specificity of the intervention effects to the targeted dimensions further supports the construct validity of multidimensional students' evaluations of teachings The lessons from this research that may be useful for improving the quality of postgraduate supervision based on PhD students' evaluations are that the feedback needs to be specific to each supervisor, supervisors may need concrete strategies about how to improve their supervision, and this feedback may need to be complemented by a trained consultant Even when supervisors are motivated to improve their supervision and have feedback about their strengths and weaknesses, they still need professional assistance on how actually to improve their supervision Because university academics typically receive even less training (and have been exposed to even fewer role models) in how to be effective supervisors than in how to be effective classroom teachers, we expect that these results from the student evaluation literature will generalize to research supervision

Multiple Level of Effectiveness in School Effectiveness Research

In Australia and throughout the world there is an increasing emphasis on accountability and the need to enhance teacher and school effectiveness in both elementary and secondary schools (e g , Hill & Rowe, 1996, 1998, Rowe & Hill, 1998, Rowe, Hill, & Holmes-Smith, 1995, Rowe & Rowe, 1999, Scheerens & Bosker, 1997) Influenced by early production functions and economic rationalist perspectives, much of this research has focused almost exclusively on academic achievement as an outcome measure Furthermore, it typically has not taken into account extreme input differences (i e , if entering students are 1 *SD* above the mean of standardized achievement tests upon entering a school but only 0 5 *SD* above the mean when leaving, then, perhaps, the school has not been "effective") More recently, sophisticated statistical procedures incorporating structural equation modeling and multilevel modeling have provided more defensible indices of growth or "value-added" gains over time that can be attributed to a school and, more particularly, to within-school class/teacher effects (e g , Rowe, 1999, Rowe & Hill, 1998, Rowe, Hill, & Holmes-Smith, 1995, Rowe & Rowe, 1999, Rowe, Turner, & Lane, in press) In contrast to earlier research that did not account for the inherent hierarchical structure of the data, this more recent research has clearly demonstrated that effective schools are primarily a function of effective teachers within these schools Once class/teacher effects have been taken into account (45% to 59% of the variance), there is little residual variance at the school level (< 10%) Furthermore, even in the most effective schools there is substantial variation at the class/teacher level Indeed, Monk (1992) cites a number of studies in support of the observation that "One of the recurring and most compelling findings within the corpus of production function research is the demonstration that how much a student learns depends on the identity of the instructor to which that student is assigned" (p 320)

Findings from school effectiveness research also clearly demonstrate that it is important to control input differences before interpreting outcome differences (i e , a value-added model), and have prompted a major reassessment of knowledge about educational effectiveness in terms of teaching and learning outcomes This is relevant to PhD students' evaluation research to the extent that there are university-to-university differences in the initial quality of students enrolling in different universities More generally, whereas this school effectiveness research comes from a very different perspective than research on students' evaluations of university teaching as reviewed earlier, both research literatures lead to a similar conclusion that the individual teacher—or individual supervisor in the case of research supervision—is the most important unit of analysis in assessing the quality of education.

Postgraduate Research Experience Questionnaire: Development and Preliminary Evaluations

In order to explore the issues, complexities, and challenges in the use of PhD students' evaluations to benchmark universities or disciplines within universities, it is important to have an appropriate survey instrument. Here, we briefly describe the background to the development and evaluation of the PREQ that was the source of data in the present investigation.

Australia, like many other countries, is seeking ways to improve the quality and enhance the accountability of its higher education sector (e.g., Harmon, 1999). Consistent with this aim the Australian government and Australian universities have cooperated to collect standardized data that can be used to compare outcomes of any one university with those across all universities or with those of similar universities—a benchmarking exercise. Such comparisons have provided valuable information about research publications, research funding, undergraduate teaching, and various other indicators of effective universities. Thus, for example, highly standardized and audited measures of research productivity—peer-reviewed publications and research funding—are used to rank Australian universities and disciplines within universities and to determine, in part, the research infrastructure funding that different universities receive.

In 1991 the Australian government commissioned trials of the Course Evaluation Questionnaire in order to monitor the quality of students' university experiences. The Course Evaluation Questionnaire is now routinely completed by graduates from all Australian universities within a few months of graduation. The responses assess characteristics of good teaching and effective learning, such as enthusiasm, feedback, clarity of explanations, the establishment of clear goals and standards, the development of generic skills, the appropriateness of the workload and assessment, and an emphasis on student independence (Ainley & Long, 1994; Ramsden, 1991). The intent of the Course Evaluation Questionnaire is to provide an overall perspective of student experience, and students are instructed to think about their educational experience as a whole rather than to identify specific subjects, classes, or teachers. Results of this exercise are broadly available, for example, through *The Good Universities Guide to Australian Universities* (Ashenden & Milligan, 1995), which has extensive comparative data that are used widely by potential students to select universities Despite widespread use of the Course Evaluation Questionnaire, its inappropriateness was broadly recognized for purposes of evaluating the quality of supervision of postgraduate research (PhD and research master's) students This led to the development and evaluation of the PREQ instrument to measure PhD students' evaluations

In 1996 the Australian Department of Employment, Education, Training, and Youth Affairs commissioned the Graduate Careers Council of Australia to develop the PREQ to measure the experiences of PhD and research higher degree students and the Australian Council for Educational Research (ACER) to evaluate trial results based on this instrument (see ACER, 1999, for a more detailed description of the rationale, development, and evaluation) The intended purposes of the PREQ were to provide a multidimensional measure of the experience of PhD and research higher degree graduates, to provide comparative information that would allow identification of centres of good practice and to assist institutions with below average ratings and, perhaps, to inform students where they were likely to receive good support for pursuing a research higher degree

An advisory board was established that represented the survey management group and had broad representation of the higher education sector, including academics, research administrators, and research students The process used to develop the PREQ incorporated extensive input from diverse sources that included reviews of current literature, current institutional evaluation research, good practice and outcomes in relevant areas, existing instruments used in different universities, feedback from higher education staff with relevant experience, a special conference to explore the development of the instrument, and focus groups with current research higher degree students (ACER, 1999) Based on broad input, the advisory group developed a list of items and issues to be covered on the PREQ These were then tested with two focus groups of research higher degree students and, concurrently, sent for comment to academic staff with appropriate expertise This led to the development of a list of potential items to be included In a third focus group, students completed the items and commented on the items, the instructions, and the format of the instrument This led to minor rewording of some items and the accompanying instructions This was followed with further consultation with the advisory group and development of the final pilot version of the PREQ instrument This systematic development of the PREQ instrument provides strong support for its content validity and the "face validity" of the responses from the perspectives of the major stakeholders

For purposes of trialing the PREQ, all Australian universities were invited to participate in the pilot studies, and most agreed to do so (see ACER, 1999, for list of participating universities) In order to evaluate the most appropriate response format, two substantially similar instruments were developed based on "agree-disagree" and "satisfied-unsatisfied" response scales Both instruments were considerably longer than the eventual form was intended to be, allowing for the selection of the best items The first data collection was based on PhD and master's research students who graduated between 1 October 1996 and 30 September 1997 Universities mailed survey forms to their recent graduates of research higher degree programs and followed up nonrespondents A second data collection was conducted in 1998 for students graduating in the following year Across both data collections there were responses from 1832 research higher degree students representing 29 Australian and 3 New Zealand universities Analyses included exploratory factor analysis, confirmatory factor analyses, reliability analysis, item response theory analyses, and an evaluation of missing and not appropriate responses that were used to develop the final set of items The factor analyses demonstrated that both versions of the PREQ resulted in five evaluation factors (Supervisor, Climate, Clarity, Infrastructure, and Skill Development), whereas the agree version resulted in a sixth factor about the thesis examination process (Thesis) The items used to infer each of these scales (ignoring for now factor analyses and reliability results that are presented in subsequent discussion) are presented in Table 1

In summary, the development of the PREQ instrument supported its content (and face) validity, whereas results based on two large data collections from PhD students from most Australian universities supported its psychometric characteristics (reliability and factor structure) based on responses by individual students On the basis of this evaluation, it was recommended that the "agree" version of the PREQ instrument (see Table 1) should be used (ACER, 1999)

An important use of the responses would be to benchmark Australian universities in relation to PhD students' evaluations such that the results from any one university (or discipline within a university) could be compared to national normative data and to responses from similar universities Thus, for example, McKinnon, et al (2000) was commissioned by the Higher Education Division of the Australian Department of Education, Training and Youth Affairs to develop benchmark outcomes for benchmarking Australian universities Their proposed benchmarks were intended to cover a wide variety of different university functions They specifically noted, however, that PREQ ratings by research degree

TABLE 1

Confirmatory Factor Analysis Structure for Postgraduate Research Experience Items

	Factor Loading					
	SUP	SKL	CLM	INF	EXM	CLR
Supervisor (SUP)						
Supervision was available when I needed it	0.81	0	0	0	0	0
My supervisor/s made a real effort to understand difficulties I faced	0.85	0	0	0	0	0
My supervisor/s provided additional information relevant to my topic	0.80	0	0	0	0	0
I was given good guidance in topic selection and refinement	0.78	0	0	0	0	0
My supervisor/s provided helpful feedback on my progress	0.87	0	0	0	0	0
I received good guidance in my literature search	0.71	0	0	0	0	0
Skill Development (SKL)						
My research further developed my problem-solving skills	0	0.77	0	0	0	0
I learned to develop my ideas and present them in my written work	0	0.75	0	0	0	0
My research sharpened my analytical skills	0	0.78	0	0	0	0
Doing my own research helped me to developed my ability to plan my own work	0	0.67	0	0	0	0
As a result of my research I feel confident about tackling unfamiliar problems	0	0.66	0	0	0	0
Climate (CLM)						
The department provided opportunities for social interaction with other postgraduate students	0	0	0.67	0	0	0
I was integrated into the department's community	0	0	0.81	0	0	0
The department provided opportunities for me to be involved in the broader research culture	0	0	0.81	0	0	0
A good seminar program for postgraduate students was provided	0	0	0.61	0	0	0
I used the research ambience in the department or faculty to stimulate my own work	0	0	0.73	0	0	0
Infrastructure (INF)						
I had access to a suitable working space	0	0	0	0.69	0	0
I had good access to the technical support I needed	0	0	0	0.80	0	0
I was able to organise good access to necessary equipment	0	0	0	0.78	0	0
I was given good access to computing facilities and services	0	0	0	0.76	0	0
There was appropriate financial support provided for research activities	0	0	0	0.59	0	0
Thesis Examination (EXM))						
The thesis examination process was fair	0	0	0	0	0.80	0
I was satisfied with the thesis examination process	0	0	0	0	0.96	0
The examination of my thesis was completed in a reasonable time	0	0	0	0	0.56	0

Continued

TABLE 1 (*Continued*)

	Factor Loading					
	SUP	SKL	CLM	INF	EXM	CLR
Clarity (CLR)						
I developed an understanding of the standard of work expected	0	0	0	0	0	0.77
I understood the required level for the thesis	0	0	0	0	0	0.86
I understood the requirements of thesis examination	0	0	0	0	0	0.76
Factor Correlations (and coefficient α estimates of reliability)						
Supervisor (α = 0.91)	1					
Skill Development (α = 0.85)	0.43	1				
Climate (α = 0.85)	0.49	0.40	1			
Infrastructure (α = 0.83)	0.52	0.43	0.76	1		
Thesis Examination (α = 0.77)	0.37	0.27	0.35	0.28	1	
Clarity of Expectations (α = 0.82)	0.59	0.55	0.44	0.46	0.47	1

NOTE. Analyses were based on the $N = 939$ sets of responses by individual students to the agree-disagree version of PREQ. Parameter estimates are presented in completely standardized format. Factor loadings of zero (0) are fixed according to the a priori design of the model.

students would provide a useful measure of the quality of research training and stated that "It is envisaged that student experience and satisfaction will be benchmarked by implementation of a Postgraduate Research Experience Questionnaire (PREQ) now in trial use" (p. 101, Benchmark 8.4). The main focus of the present investigation is to evaluate the PhD students' evaluations in relation to this potential use of them.

Questions to Be Addressed in the Present Investigation

The overarching focus of the present investigation is on the use of PhD students' evaluations for purposes of benchmarking the research supervision at different universities. Although research reviewed earlier on the psychometric properties of PhD students' evaluations at the level of the individual student is very encouraging, there are several important questions that need to be addressed before it can be concluded that PhD students' evaluations in general, or PREQ responses in particular, are appropriate for making comparisons between universities or disciplines within universities. First, the appropriate unit of analysis for the analysis of PhD students' evaluations must be established, and appropriate evaluations need to be conducted at that unit of analysis. Second, in a related concern, PhD students' evaluations must be able to discriminate between different universities if they are to be used to compare different universities

PhD Students' Evaluations and the Appropriate Unit of Analysis Problems

What is the appropriate unit of analysis for evaluating PhD students' evaluation responses? In student evaluation research discussed earlier it is well established that the appropriate unit of analysis is the individual teacher teaching a particular class rather than the individual student From this perspective, the most appropriate estimate of reliability is the reliability of class-average responses defined by the extent of agreement among students within the same class and not the reliability of responses by individual students Thus, reliable items are ones for which there is substantial agreement among students within the same class and substantial differences in the mean ratings for different classes Factor analyses, reliability analyses, and relations with validity criteria and potential biases based on responses by individual students—instead of class-average responses—are largely irrelevant and not given much attention in this research literature

Although analyses of PREQ responses described earlier were mostly based on the individual student as the unit of analysis, we argue *a priori*, as is the case for students' evaluations, that the appropriate unit of analysis for evaluating PhD students' evaluations *should be* the supervisor who is being evaluated As with the students' evaluations research, analyses conducted at the level of the individual student may be largely irrelevant This presents a serious problem for the PREQ analyses in that the individual supervisors were not even identified. (There would, however, be potentially serious issues of confidentiality if supervisors were identified and place students in a conflict of interest situation Unlike evaluations of classroom teaching, any one supervisor is unlikely to have many students completing their PhD in a given year, and students are likely to be dependent on supervisors for letters of reference for at least the early part of their subsequent career)

From this perspective, the appropriate estimate of reliability should have been the extent of agreement among different students rating the same supervisor (interrater reliability). This reliability estimate would be more appropriate and is likely to have been substantially lower than the coefficient alpha estimates of reliability reported in the ACER (1999) report Based on extrapolations from student evaluation research (Marsh, 1987) and the small number of research students supervised by the same supervisor who are likely to graduate in any given year, it is probable that the reliability of the PhD students' evaluations at the level of the supervisor would be unacceptably low (e g , 0 5 or less). This question is moot in the present investigation in that students did not identify their supervisor when completing the PhD students' evaluations. A more relevant question—one that can be addressed with the available information and that is consistent with potential applications of PhD students' evaluations—is the reliability of the PhD students' evaluations at the level of the university or discipline within the university. Here also, the reliability depends on the extent of agreement among different students within the same unit (university, or discipline within a university) and the number of students within that unit.

Another perspective on the unit-of-analysis issue may be the target unit of analysis based on the content of the items. Many of the PREQ items, however, are ambiguous in this respect (see Table 1). Whereas the Supervisor factor and perhaps the Skill Development factors are aimed at supervisors, the Climate and Infrastructure factors may refer to either the supervisor or the academic unit, and the Thesis Examination and Clarity factors may refer to the entire university. Hence, the potential confusion about the appropriate unit of analysis is also evident in the construction of the PREQ items. It is, nevertheless, likely that the individual supervisor is critical in all aspects of the supervision and research training experience.

A particularly important concern about the unit of analysis is the target unit at which the ratings are intended to be used. Particularly because individual supervisors were not even identified, the intended unit of analysis appears to be the entire university or specific disciplines within each university. Indeed, this supposition is supported by the claim that PREQ responses are potentially useful for benchmarking exercises.

Methods

Sample and Procedures

The present investigation is an analysis of data collected in the original trial of the PREQ instrument (ACER, 1999, also see earlier discussion of the background leading to the development of the PREQ). The data consist of responses by 1832 students who recently completed a PhD or research master's degree from one of 29 Australian and 3 New Zealand universities. Responses were from one of two student cohorts, those graduating between October 1996 and September 1997, and those graduating the following year. Roughly half the students completed the agreement-disagreement version of the PREQ, and half completed the satisfactory-unsatisfactory version of the instrument. In all cases, each university was responsible for mailing copies of the instrument to their recent graduates and following up nonrespondents. The average response rate was 45% for the 29 Australian universities and somewhat lower for the three New Zealand universities Although the overall sample of respondents and those responding to each version of the instrument are not random samples of the entire population of students, comparisons presented by ACER (1999) suggested that they are broadly representative of the population of research students

Variables

In the present investigation our focus is on the use of PREQ responses as a means to the examination of issues, complexities, and challenges in the application of PhD students' evaluations as a basis for benchmarking universities rather than the evaluation of a particular instrument From this perspective, however, it is fortunate that the PREQ instrument has good psychometric properties when evaluated at the level of the individual student (see earlier discussion and subsequent preliminary analyses presented in this study) and that there exists a large, national database of PhD students' evaluations that is appropriate for a multilevel analysis

In the present investigation, all analyses were conducted with scale scores based on the final recommended version of the PREQ (see Table 1) As in the original reports, scale scores were computed as the mean of non-missing responses to the items designed to measure each scale For purposes of the present investigation, variables considered include (a) six scale scores and the overall rating based on the agree version of PREQ, (b) five scale scores and the overall rating based on the satisfactory-unsatisfactory version of PREQ, (c) University, (d) Discipline a narrow classification reported in the original study consisting of 44 different disciplines (37 of which were actually represented in the data collected) and a broad classification of 10 disciplines used in the present investigation (Agriculture (6%), Architecture (1%), Humanities (16%), Social Sciences (11%), Business (7%), Education (11%), Engineering (10%), Health/Medicine (10%), Life/Biological Sciences (15%), Physical sciences (12%)), (e) Five Student Characteristics PhD (52%) vs Master's research student, Part-time (32%) vs Full-time, Female (48%) vs male, Non-English Speaking Background (NESB, 25%) vs English Speaking background, Age (orthogonal linear and quadratic contrasts based on five age categories) All students were included who completed at least 75% of the survey items and had complete data for the university, discipline, and four of the student characteristics (for student age, the mean age was assigned for 30 students who left this item blank even though they otherwise had complete data) Based on this selection procedure, responses from 1749 of the original 1832 cases were included in the final analyses Unreported analyses conducted as part of the present investigation suggest that this exclusion of students with missing data had little or no effect on the results reported here.

Statistical Analyses

Statistical analyses consisted primarily of multilevel analyses conducted with the commercially available *MLwiN* (Goldstein et al., 1998) and LISREL (Joreskog & Sorbom, 1999) statistical packages. A detailed presentation of the conduct of multilevel modeling (also referred to as hierarchical linear modeling) is available elsewhere (e.g., Bryk & Raudenbush, 1992, Goldstein, 1995, Goldstein et al., 1998, Rowe, 1999). Particularly in educational research, characteristics associated with individual students who are clustered into academic units (e.g., classes, departments, faculties, disciplines, schools), pose special problems for analysis. These include the appropriate levels of analysis, aggregation bias, heterogeneity of regression, and associated problems of model misspecification due to lack of independence between measurements at different levels. Thus, it is inappropriate to pool responses of individual students without regard for other levels unless it can be shown that responses in the higher-level academic units do not differ significantly from each other. Moreover, reliability estimates, factor structure, and relations with external criteria observed at one level might not bear any straightforward connection to relations observed at another level. Multilevel analyses allow researchers to simultaneously consider multiple units of analysis within the same analysis. In the variance component models, estimates of the variance (and tests of statistical significance) at each level (e.g., individual student and university) are determined. In subsequent models additional predictor variables (e.g., student characteristics) are added to determine their effects and their influence on variance components.

A critical complication in the present investigation is how to compare results across the satisfactory and agree versions of the PREQ instruments. Although there is substantial overlap in the factors measured by each version, the actual wording of the items and response scales are different. For some analyses we merely conducted separate analyses for responses to each version. We also, however, developed an alternative approach. Both versions of the instruments contain a similarly worded overall rating item. For purposes of the present investigation, we normalized and standardized the data using the "normal" procedure available in LISREL (Joreskog & Sorbom, 1999). This transformed responses to each item to a common metric with a common mean and standard deviation (based on the untestable but plausible assumption that the "true scores" for the two groups are actually the same). In this way, we constructed an overall rating score that was common to students completing both versions of the instruments that allowed us to conduct analyses across the entire sample of students This is important, because it allows testing more formally whether the effects (e g , the student characteristics, discipline) differ significantly for the two groups Of particular relevance to the present investigation, this strategy also increases the statistical power of tests of the variance associated with higher levels (e g , the university or discipline within the university) where the sample sizes in some cases are low Although this strategy is based on untestable assumptions about responses in the two groups, a detailed comparison of the parallel analyses of the overall rating item in each group separately with those based on the combined overall rating item across the two groups (see subsequent discussion) supports this approach

The selection of the appropriate units of analysis for the present investigation is not straightforward In all analyses to be presented, the individual student is always the lowest level, whereas the university is always the highest level In all cases, both these effects are appropriately considered to be random effects (see Bryk & Raudenbush, 1992, Goldstein, 1995, Rowe, 1999) The classification of academic discipline as random or fixed, however, is more complicated If the concern is to test for the statistical significance of differences between a fixed set of broad disciplines, then it might be appropriate to consider these as fixed effects On the other hand, if the concern is with variance associated with particular groups of students associated with a narrowly defined discipline within each university who might have postgraduate experiences that differ systematically from those of students in other disciplines within the same university, then it might be more appropriate to consider discipline as a random variable In the present investigation, we sought a compromise strategy to pursue both possibilities

1 First, we fitted a set of two-level models (level 1 = students, level 2 = university) In Model 1 (variance component model), no fixed effects were included In Model 2, the fixed effects of student characteristics were included In Model 3, the additional fixed effects of the broad discipline classification (with 10 categories) were included The 10-category classification of discipline was represented by 9 dummy dichotomous (0,1) variables in which the "left-out" discipline was the discipline that received lowest overall ratings (Humanities) Hence, the test of statistical significance for each remaining discipline was a test of whether ratings were significantly higher than those in Humanities (see Bryk & Raudenbush, 1992, Goldstein, 1995, Rowe, 1999) Under appropriate conditions, the change in likelihood ratio associated with the introduc-

tion of new variables in each model can be used to assess the improvement of fit due to the introduction of all fixed effects entered at that level In preliminary analyses, we also ascertained that the narrow (a 37-category) classification of disciplines was not able to explain significantly more variance than the broad (10-category) classification of disciplines For this reason, we chose to use the more parsimonious classification to represent the fixed effects of discipline

2 Second, we fitted a parallel set of three-level models (level 1 = students, level 2 = narrow discipline, 3 = university) As in the two-level analyses, we evaluated three models that included no fixed effects (Model 1), student characteristics (Model 2), and the broad (10-category) classification of disciplines This final model in which discipline is included as both a fixed effect and a random effect is justified, we argue, because of the competing interpretations of discipline A detailed comparison of the results from parallel analyses of fitting the two- and three-level models to the data provided support for the appropriateness of conclusions based on this final model

Preliminary Analysis of Psychometric Properties at the Level of the Individual Student

Although the main focus of our study is on multilevel analyses, it is useful to report briefly the psychometric properties of PREQ responses based on analyses of responses by individual students like those traditionally used to evaluate survey instruments This is relevant in order to show that this is an appropriate instrument in relation to traditional psychometric properties conducted at the level of the individual students and, thus, appropriate for evaluating the overarching issues that are the focus of the present investigation For these purposes we considered responses to the 27 PREQ items from the "agree" version of the instrument that was recommended in the evaluation of the instrument (ACER, 1999, see p 57) Even though the six scales are relatively short (varying from 3 to 6 items, see Table 1), the coefficient alpha estimates of reliability are good, varying from 0 77 to 0 91 (median = 0 84, Table 1) Exploratory and confirmatory factor analyses each provided strong support for the a priori six factors A highly restrictive confirmatory factor analysis model was tested in which each item was allowed to load on one and only one factor, and residual variance (measurement error) associated with each item was required to be uncorrelated with residual variance components associated with other items The fit of the model was good in relation to traditional guidelines of goodness of fit (Tucker-Lewis index = 0 93, relative noncentrality index = 0 94, and residual mean square error of approximation = 0.05). The solution was well defined in that the factor loadings relating items to their a priori factor were all substantial and statistically significant (see Table 1). Hence, these preliminary analyses support psychometric properties of the PREQ responses when evaluated at the level of the individual student (for further discussion, see ACER, 1999).

Results

The central questions in the present investigation are whether PhD students' evaluations are able to discriminate between universities or to discriminate between the same discipline across different universities. We address these questions with two sets of multilevel analyses.

Differences Between Universities: Two-Level Analysis

University effects. In two-level models (level 1 = student, level 2 = university, see Tables 2 and 3) we evaluated (a) Variance associated with differences between universities (Model 1), (b) Effects due to student characteristics (Model 2), and (c) Effects due to different disciplines (Model 3).

For the overall ratings based on each version of the PREQ and the combined group, the variance component associated with differences in university was not statistically significant for any of these three models. These results for the combined analyses are illustrated in Figure 1a. For purposes of this illustration, the 32 universities are ranked from lowest to highest, and an error bar (range of probable error) is placed about the mean rating for each university (for further discussion of this mode of presentation, see Goldstein, et al., 1998, Rowe, 1999). The range of probable error for 31 of the 32 universities includes 0 (the mean for all universities). There is only one New Zealand university that has a mean that differs noticeably from the means of the other 32 universities (see note 2). In summary, analyses based on the overall student ratings show that there are no significant differences between universities.

We now turn to an evaluation for the specific evaluation factors: Supervision, Climate, Clarity, Infrastructure, Skill Development, and, for the agree version, Thesis Examination. For the satisfaction version of PREQ, all 18 variance components associated with university differences (6 scales x 3 models) are nonsignificant. For the agreement version, however, there are marginally significant variance components with Model 1 ($0.01 < p < 0.05$) for Thesis Examination and Clarity. These differences, however, were nonsignificant when student characteristics were controlled in Model 2, and they remained nonsignificant in

TABLE 2

Differentiation Among Universities and Disciplines: Variance Components

		University Random		University & Discipline Random		
Scale	Model	Univer	Student	Univer	Discip	Student
Agreement						
Overall	1	0.031	0.930*	0.024	0.039	0.895*
	2	0.021	0.906*	0.017	0.029	0.880*
	3	0.022	0.893*	0.019	0.023	0.873*
Supervisor	1	0.020	0.853*	0.016	0.030	0.826*
	2	0.018	0.835*	0.015	0.028	0.810*
	3	0.019	0.818*	0.017	0.012	0.807*
Skill Devel	1	0.006	0.281*	0.006	0.000	0.281*
	2	0.002	0.274*	0.003	−0.001	0.274*
	3	0.002	0.270*	0.003	−0.002	0.272*
Climate	1	0.020	0.808*	0.012	0.072*	0.743*
	2	0.011	0.761*	0.008	0.050*	0.714*
	3	0.010	0.753*	0.008	0.039	0.716*
Infrastruct	1	0.030	0.791*	0.018	0.091*	0.707*
	2	0.011	0.738*	0.002	0.066*	0.678*
	3	0.009	0.716*	0.002	0.048*	0.674*
Thesis Exam	1	0.048*	0.876*	0.046*	0.022	0.859*
	2	0.032	0.854*	0.031	0.006	0.849*
	3	0.030	0.843*	0.029	0.002	0.842*
Clarity	1	0.025*	0.499*	0.024	0.020	0.481*
	2	0.013	0.478*	0.013	0.014	0.464*
	3	0.013	0.474*	0.013	0.009	0.466*
Satisfaction						
Overall	1	0.005	0.494*	0.004	0.017	0.479*
	2	0.000	0.485*	0.000	0.016	0.469*
	3	−0.001	0.476*	−0.001	0.006	0.471*
Supervisor	1	0.003	0.405*	0.002	0.010	0.396*
	2	0.001	0.400*	0.000	0.008	0.394*
	3	−0.001	0.392*	−0.001	−0.006	0.398*
Skill Devel	1	0.005	0.228*	0.003	0.008	0.221*
	2	0.003	0.221*	0.002	0.007	0.214*
	3	0.003	0.216*	0.002	0.001	0.215*
Climate	1	0.007	0.398*	0.006	0.050*	0.356*
	2	0.004	0.388*	0.003	0.038*	0.356*
	3	0.004	0.375*	0.003	0.018	0.359*
Infrastruct	1	0.007	0.393*	0.005	0.027*	0.369*
	2	0.003	0.386*	0.001	0.020	0.366*
	3	0.002	0.370*	0.002	0.001	0.370*
Clarity	1	0.007	0.419*	0.007	0.005	0.415*
	2	0.003	0.411*	0.003	0.002	0.410*
	3	0.002	0.406*	0.002	0.007	0.412*
Combined Overall[a]						
Overall	1	0.018	0.975*	0.013	0.038	0.941*
	2	0.011	0.956*	0.007	0.032*	0.927*

TABLE 2 (*Continued*)

	University Random			University & Discipline Random		
Scale	Model	Univer	Student	Univer	Discip	Student
	3	0 009	0 944*	0 007	0 017	0 929*
	4	0 008	0 932*	0 006	0 018	0 917*

NOTE Two sets of analyses were conducted, two-level analyses, in which only the university ($n = 32$) was random, and three-level analyses, in which both the university and discipline ($n = 37$) within the university were random For both sets of analyses, three models were evaluated Model 1, in which there were no fixed effects, Model 2, in which student background variables were estimated as fixed effects, Model 3, in which student background variables and broad discipline (10 classification) were estimated as fixed effects In addition, for the combined overall analysis only, interaction terms were included to determine if the fixed effects differed for students who completed the two instruments (see Table 3)

[a] The Combined analysis was based on the overall rating item from each of the two instruments (after responses from each instrument were normalized and standardized separately to put them into the same metric)

Model 3, which also controlled for discipline differences Hence, apparent differences between universities were confounded with student characteristics (e g , students in PhD and master's programs) so that once these differences were controlled, there was no significant variance associated with differences between universities

In summary, these results provide no support for the claim that PhD students' evaluations are able to differentiate between different universities More specifically, there is no significant variation between universities for any of the PREQ scales or between the overall ratings for either versions of the instrument For purposes of distinguishing between different universities, the reliability of PhD students' evaluation responses does not differ significantly from zero

Differences due to student characteristics and academic discipline The fixed effects due to student characteristics and academic discipline (Table 3) for the overall ratings are small and largely nonsignificant In combination, these variables explain only about 5% of the variance in the student overall ratings of their postgraduate research experience based on separate analyses of the agree and satisfaction versions of the PREQ In each of the analyses, females rate their overall postgraduate experience significantly lower than males Also, older students tend to give higher ratings for the satisfaction version of the PREQ but not the agree version of the instrument, whereas PhD students tend to give higher ratings on the agree version of PREQ than students completing a research master's degree The effects of disciplines are mostly small, with only 2 and 3 significant effects in the separate analyses of the agree and satisfaction versions of the instrument Although the sizes of the

TABLE 3

Fixed Effects of Student Background Variables and Disciplines for Agreement, Satisfaction, and Combined Responses

	Student Background Variables						Broad Disciplines								
Scale	PhD	PT	Female	NESB	Age-L	Age-Q	Agri	Arch	SocS	Bus	Educ	Engr	Hlth	LifeS	PhyS
Agreement															
Overall	0.18*	−0.08	−0.22*	0.12	−0.01	−0.01	0.33*	0.11	0.01	0.38*	0.08	0.06	0.24	0.09	0.16
Supervisor	−0.01	−0.01	−0.12	0.28*	0.01	0.00	0.05	−0.07	0.01	0.20	0.08	−0.22	0.02	−0.22	0.06
Skill Devel	0.22*	−0.02	0.03	0.02	−0.04	−0.01	0.08	−0.17	0.02	0.10	0.11	−0.05	0.01	−0.05	−0.09
Climate	0.19*	−0.15*	−0.25*	0.20*	−0.02	0.02	0.20	−0.02	−0.01	0.17	0.06	−0.01	0.19	0.12	0.24
Infrastruct	0.26*	−0.18*	−0.22*	0.14*	−0.04	−0.02	0.49*	0.32	0.27*	0.50*	0.29*	0.38*	0.47*	0.43*	0.47*
Thesis Exam	0.21*	−0.02	−0.05	0.05*	0.07	0.01	0.02	−0.09	0.17	0.22	0.28*	−0.10	0.17	0.06	0.12
Clarity	0.30*	0.07*	−0.04	0.16*	0.03	0.00	0.11	−0.08	0.06	0.18	0.17	0.08	0.07	0.08	−0.03
Satisfaction															
Overall	0.08	0.00	−0.12*	0.00	0.10*	0.02	0.32*	−0.15	0.09	0.15	0.24*	0.14	0.12	0.15	0.26*
Supervisor	0.03	0.05	0.02	0.03	0.06*	0.01	0.21	0.01	0.14	0.07	0.30	0.08	0.01	0.00	0.15
Skill Devel	0.16*	−0.02	0.03	0.02	−0.04	−0.01	0.08	−0.17	0.02	0.10	0.11	−0.05	0.01	−0.05	−0.09
Climate	0.08	−0.03	−0.14*	−0.03	0.01	0.03	0.09	−0.19	0.12	0.21*	0.28*	0.23*	0.23*	0.21*	0.36*
Infrastruct	0.12*	0.02	−0.09	0.02	0.01	0.01	0.27*	−0.07	0.15*	0.07	0.21*	0.32*	0.25*	0.19*	0.42*
Clarity	0.09	0.05	−0.03	0.05	0.08*	0.01	0.20	−0.08	0.06	0.06	0.25	0.04	0.07	0.07	0.16
Combined Overall															
Overall	0.16*	−0.07	−0.19*	0.05	0.06	0.01	0.39*	0.04	0.09	0.32*	0.24*	0.11	0.25*	0.16	0.28*
Interact	0.03	−0.02	−0.02	0.03	−0.09*	−0.04	−0.01	0.02	−0.02	0.02	−0.04	−0.02	0.01	−0.03	−0.03

NOTES. PhD (1 = PhD, 0 = Master's). PT (1 = part time, 0 = full time), Female (1 = female, 0 = male), NESB (1 = non-English speaking background), Age-L = Linear effect of age, Age-Q = Quadratic effect of age, Agri = Agriculture, Arch = Architecture, SocS = Social Sciences, Bus = Business, Educ = Education, Engr = Engineering, Hlth = Health, LifeS = Life/Biological Sciences, PhyS

Fixed effects and their statistical significance are based on a two-level model, in which level 1 = individual student, level 2 = university, but the results were nearly identical for the three-level model (that also included the narrow discipline as a random effect).

[a] The Combined analysis was based on the overall rating item from each of the two instruments (after responses from each instrument were normalized and standardized separately to put them into the same metric). In an additional model, interaction terms were also included to determine if the effects based on the overall ratings for one group differed from the other group. Only the linear effect of age differed for the two groups (age was more positively related to overall ratings for students who completed the agreement instrument than those who completed the satisfaction instrument).

$^{*}p < 0.05$

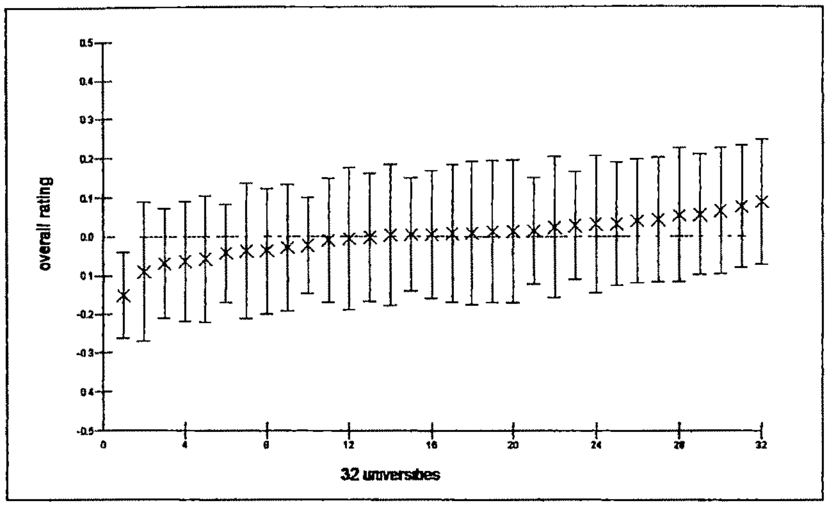

FIG. 1A. Two-Level Model

NOTE. Mean Overall Rating and 95% confidence interval (±1.96 standard errors) for 32 universities ranked from lowest to highest. Based on two-level model (level 1 = student, level 2 = university) with student background and broad discipline as fixed effects (Model 3 with university random in Table 2).

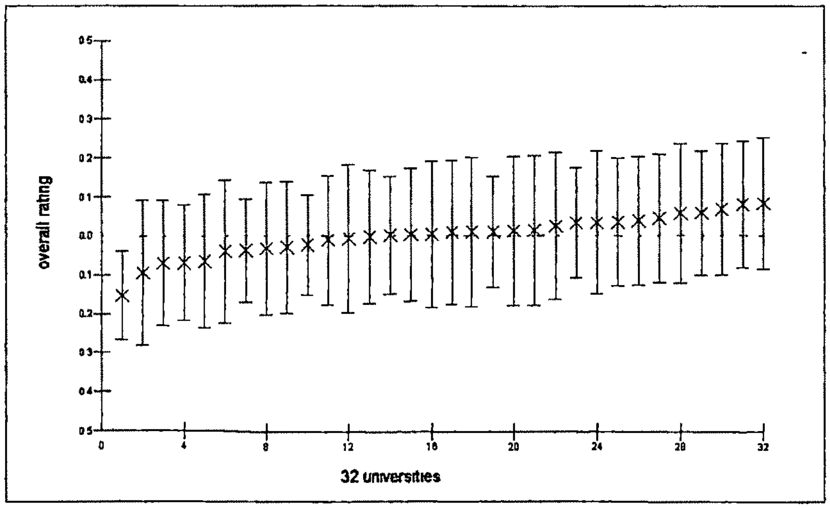

FIG. 1B. Mean Overall Rating

NOTE. Mean Overall Rating and 95% confidence interval (±1.96 standard errors) for 32 universities ranked from lowest to highest. Based on three-level model (level 1 = student, level 2 = discipline, level 3 = university) with student background and broad discipline as fixed effects (Model 3 with university and discipline random in Table 2).

discipline effects are similar for the combined ratings, there are more statistically significant effects (5) due to the substantially larger sample size in the combined group. Due to the use of dummy coding (in which the discipline with the lowest overall ratings, humanities, was the base discipline), each of the regression coefficients for the remaining disciplines is a test of whether ratings in that discipline differ significantly from those in the humanities. For the combined overall ratings, ratings are significantly higher than in humanities for 5 disciplines (agriculture, business, education, health sciences, and physical sciences) and do not differ significantly from those in humanities in 4 remaining disciplines (architecture, social sciences, engineering, and life sciences). It is important to reiterate that these discipline differences are ones that generalize across the set of 32 universities and are not specific to particular universities.

A potentially important feature to these results is the inclusion of 15 interaction terms to determine whether any of the student characteristics or discipline effects differs significantly for students who completed the two versions of the PREQ. An omnibus test for all 15 effects is the difference in the likelihood ratios for Models 3 and 4 in Table 2 (22.8) relative to the difference in df (15, one for each of the 15 interaction terms). Because this difference is nonsignificant ($p > 0.1$), there is no evidence that any of these fixed effects differ for the two groups. An evaluation of each of the interaction effects (Table 3) indicates that only one difference is significant at a nominal $p < 0.05$ level. As noted previously, there is a positive linear effect of age in overall ratings on the agree version of the PREQ, but not the satisfaction version. Given the substantial power of these tests (due to the large sample sizes), the results suggest that effects based on the two groups are reasonably similar—at least in terms of responses to these overall-rating items that are worded similarly in the two instruments.

Of greater interest, perhaps, is the pattern of fixed effects that are specific to different PREQ scales and whether the pattern of results provides any support for the construct validity of the PhD students' evaluations (Table 3). For the effects of the student characteristics, the effects are not particularly consistent across the two instruments. In particular, NSEB students tended to give higher ratings than other students for the agree version of PREQ but not the satisfaction version, whereas part-time students tended to give lower ratings on the agree version but not the satisfaction version. Also, age is positively correlated with ratings for two of the satisfaction scales, but not for any of the agreement scales. Results for discipline differences are somewhat more consistent across the specific scales. In particular, the significant effects are associated mostly with the Climate and Infrastructure scales Even here, however, there is a difference between the two versions in that there are significant effects of discipline for Infrastructure and Climate ratings with the satisfaction version of PREQ, but only for Infrastructure ratings with the agree version

Because the wording of items in the specific scales is different in the two versions (as well as differences in the non-randomly assigned samples and differences in the agree and satisfaction response scales), it is difficult to interpret these effects of student characteristics Because the patterns of results vary across two versions of the PREQ that seem to measure similar constructs, the results suggest that these fixed effects associated with student characteristics may not be particularly robust. In contrast, however, the fixed effects were very similar when based on the two overall rating items that were similarly worded. Hence, we suspect that some of the differences due to apparently similar scales is due to differences between items comprising each scale

Differences Between Universities and Disciplines Within Universities Three-Level Analysis

In the three-level models (level 1 = student, level 2 = discipline, level 3 = university, see Table 2), the narrow discipline (37 category) classification is added as the second level (with university as the third level) Again, three models were considered with (a) Variance associated with difference between universities (Model 1), (b) Effects due to student characteristics (Model 2), and (c) Effects due to different disciplines (Model 3) As with the two-level models, we begin with an evaluation of the overall ratings for each version of the PREQ instrument and the combined ratings Again, however, there are no significant variance components associated with university or discipline for any models based on these overall ratings (Table 2) This lack of differentiation is also evident in the graph of the mean ratings with error bars for each of the 32 universities (Figure 1B) As with the earlier results based on two-level models, this graph shows that there is still only the one NZ university that has a mean rating significantly different from the mean across all universities or the mean of any of the other 31 universities

For analyses based on the specific PREQ factors—also consistent with results based on the two-level models—almost all of the variance components associated with university differences are nonsignificant. There are, however, several significant variance components associated with discipline for the Climate and Infrastructure factors based on responses to both instruments It is important to reiterate that discipline variance components reflect discipline differences within universities

These within university differences, however, are potentially confounded with across university differences associated with each discipline Hence, it is not surprising that the PhD students' evaluation factors showing significant variance components for discipline are also the PhD students' evaluation factors where there are significant fixed effects associated with discipline (see Table 3) Thus, when the fixed effects of discipline are added to the three-level analyses (the three-level Model 3 in Table 2), there is only one variance component associated with discipline that remains marginally significant ($0 05 < p > 0 01$) Hence, although there are discipline differences associated with a few of the evaluation factors, apparently these differences generalize across universities We have not presented the fixed effects for the three-level model, but they are nearly identical to those presented for the two-level model in Table 3 (i e , the pattern of significant and nonsignificant differences is exactly the same for the two sets of results) This similarity in the fixed effects based on the two sets of models is not surprising since the variance components associated with university and discipline within university are all very small and mostly nonsignificant (Table 2)

Discussion and Implications

Usefulness of PhD Students' Evaluations for Benchmarking Universities

The most salient finding of this study is that PhD students' evaluations do not vary systematically between universities, or between disciplines within universities This has critically important methodological and substantive implications for the potential usefulness of PhD students' ratings Because there is no significant variation at the university level, it follows that the ratings are completely unreliable for distinguishing between universities This clearly demonstrates why it is important to evaluate the reliability of responses to a survey instrument in relation to a particular application and the level of analysis that is appropriate to their intended use Although it could be argued that PhD students' ratings were reliable at the level of individual students (e g , Table 1), these results are not relevant for the likely application of the ratings to discriminate between universities Substantively, the results of the present investigation place into question the potential usefulness of PhD students' evaluations in benchmarking different universities

The results of this study also yielded interesting results associated with academic discipline When the broad set of academic disciplines was included in the multi-level models, there were some significant differences associated primarily with Infrastructure and, to a lesser extent, Intellectual Climate Thus, for example, Infrastructure support was judged to be significantly better in the science disciplines (e g , Health, Life, and Physical Sciences) than in Humanities Importantly, however, these results indicated that there were some discipline differences for a few scales that generalized across all universities in the sample When we fitted a three-level model with discipline as one of the levels (nested under university), the results again indicated that there was some significant variation associated with discipline For these results, however, two very different interpretations were plausible This variation could reflect variance associated with specific disciplines within universities, suggesting that there may be some value in benchmarking universities in relation to specific disciplines Alternatively, this variation associated with discipline might reflect discipline differences that generalized across universities like those already identified by the fixed effects of discipline (in the two-level analyses) In order to test between these two alternative interpretations, we conducted a final set of three-level models in which we included discipline as one of the levels of analysis *and* the fixed effects of discipline These results clearly showed that almost all of the variation due to discipline could be explained by discipline results that generalized across universities, and that almost none could be explained by discipline differences within universities (i e , the variance components for discipline were nonsignificant for all 5 scales on the satisfaction version of PREQ, 5 of 6 scales on the agreement version of PREQ, and the overall ratings for both versions considered together or separately) These results are important because they clearly demonstrate that PhD students' evaluations are not appropriate for comparing specific disciplines across different universities

Construct Validity Potential Criteria Used to Validate PhD Students' Evaluation Responses

Because PhD students' ratings are almost completely devoid of reliability for purposes of benchmarking universities, it follows logically that they are also invalid for such purposes In pursuit of concerns about validity, ACER (1999) related PhD students' evaluations to three potential criteria (a) the Research Quantum (a standardized, externally audited measure of the research productivity of each Australian university compiled by the Australian government), (b) number of Australian Postgraduate Awards (a highly prestigious scholarship available only to the best applicants) obtained by individual universities, and (c) attrition rates in the various postgraduate populations However, correlations between these external validity criteria and PhD students' ratings of their supervision were not statistically significant, leading to the conclusion that "comparisons based on institution wide research performance are probably inappropriate for establishing external validity" (ACER, 1999, p 78) In contrast, we argue that these external criteria are appropriate for purposes of validating PhD students' ratings in relation to the purpose of benchmarking universities Indeed, funding to Australian universities for research degree students is based substantially on these criteria on the assumption that they provide surrogate measures of the quality of research supervision Instead of rejecting the appropriateness of these external criteria, their lack of relation with PhD students' responses calls into question the construct validity of the responses for this purpose Furthermore, our analyses clearly show that the reason why the responses lack validity in relation to these external criteria is that the responses are completely unreliable at the level of the university Hence, it is unlikely that PhD students' responses will be meaningfully related to any external validity at the level of the university

Other Potential Uses of PhD Students' Evaluations

The focus of the present investigation is on the usefulness of PhD students' ratings of their research supervision for purposes of benchmarking universities Our results, however, provide strong evidence against the construct validity of the responses, at least for purposes of benchmarking universities Given this failure, it is appropriate to speculate on other possible uses of the PhD students' responses in their current form After carefully considering various options, we conclude that they are of limited use for any likely purpose

If it were ethically, politically, and logistically feasible for students to identify their supervisor and to provide supervisors with this feedback, then their ratings of supervision might be useful for improving the quality of supervision and for administrative decisions that reward effective supervisors There is support (see earlier discussion) from both student evaluation research at the university level and from school effectiveness research at the elementary and secondary school levels that individual teachers do make a difference Furthermore, research based on students' evaluations of teaching effectiveness provides a well-established example of how student ratings can be used to improve the effectiveness of individual teachers For supervisory ratings, however, there are serious impediments to this use of PhD students' evaluations Students asked to rate the quality of their supervision, knowing that responses would be returned to their supervisor, would have a serious conflict of interest Because any particular supervisor would typically have no more than one student completing a research degree in a given year—certainly no more than a very few—there could be no effective guarantee of the confidentiality of their responses Research degree students have already graduated when asked to complete the ratings in the present investigation However, they are likely to be dependent upon their supervisors for letters of reference to prospective employers for at least the early part of their subsequent career Furthermore, even if PhD students could be relied upon to give candid responses, the very small number of students evaluating a particular supervisor in any given year (typically none and rarely more than one) would not provide a reliable basis for evaluating the effectiveness of an individual supervisor Hence, we doubt whether PhD students' evaluations would be particularly useful for evaluating the effectiveness of individual supervisors for either formative feedback or summative personnel purposes

An additional purpose of PhD students' evaluations might be to provide students with a basis for selecting universities that provide good postgraduate research supervision Indeed, extensive use of the Course Experience Questionnaire—the evaluation of undergraduate experience that served as one model for the PREQ—is made for this purpose through the publication of these results The appropriate use of PhD students' evaluations for this purpose, however, also requires that the responses are reliably and validly able to discriminate among universities (or disciplines within universities) Because the present results show that PhD students' evaluations are completely unreliable for this purpose, it would be inappropriate to use the PhD students' evaluations to inform choice of programs

Averaged across all universities, PhD students' rating of their supervision may reflect the effectiveness of research training across the entire Australian higher-education sector. Even here, however, there are no clearly articulated benchmarks about what constitutes superior, acceptable, or unacceptable responses Hence, PhD students' evaluations would be of limited usefulness in evaluating the quality of postgraduate research training across the entire university sector It is also possible that PhD students' evaluations collected over a number of years may provide a benchmark for evaluating systemwide changes in postgraduate training—particularly in a period of much potential change in the Australian postgraduate training policy Even here, however, there are no standards of what levels are acceptable, and it would be difficult to know whether any observed changes represented changes in national policies, university policies, differences in the cohort of students enrolling in research degree programs, or changes in expectations of students over time Whereas it might be possible to obtain postgraduate student ratings on a very different set of constructs focused more on quality assurance processes that are relevant to university-level policies for purposes of benchmarking universities, the results of the present investigation are not very encouraging Based on our investigation we conclude that PhD students' evaluations—at least as formulated in this study—are unlikely to be useful for most conceivable purposes

These results also have important implications for universities that develop their own surveys for use with only their own PhD students Because PhD students' evaluations do not vary much from university to university, it seems unlikely that the results of such an exercise would be very useful in assessing the quality of supervision at a given university Furthermore, although there might be small differences associated with particular disciplines on some evaluation factors like those found here, these differences are not easily interpreted As shown in the present investigation, observed discipline differences are likely to reflect differences that would generalize across PhD students' evaluations of that same discipline across different universities rather than differences that are specific to the particular academic unit within a given university

Potential Limitations to the Generalizability of Results from the Present Investigation

We claim that the results of the present investigation are generalizable and have broad relevance to the higher-education research community Clearly, the broad issues that we address—PhD students' evaluations of the effectiveness of their research supervision and the potential usefulness of these ratings for benchmarking universities—have broad applicability Had our results provided reasonable support for the usefulness of these ratings as a basis for discriminating between different universities, the procedures would have provided an important model for similar programs in other universities and other countries Because our results did not support the usefulness of PhD students' evaluations for benchmarking universities, it is important to evaluate the extent to which the nonsignificant results are a function of idiosyncratic features of our study In particular, it is appropriate to ask the question Is it likely there would be support for the usefulness of PhD students' evaluations of their supervision in another study based on responses to a different instrument, or responses from a different group of students, or responses from a different set of universities? Although our conclusions must be somewhat tentative, we argue that our results are likely to be broadly generalizable

An important feature in assessing the generalizability of our results, perhaps, is the PREQ instrument that was the basis of our research Although our results show that PhD students' evaluations are not appropriate for purposes of benchmarking universities, there is evidence that the PREQ instrument is good according to many traditional criteria when evaluated on the basis of responses by individual students. In particular, the extensive development and refinement of the instrument that involved input from such a diverse group of stakeholders supports its content validity and appropriateness for research students who completed the instrument. Furthermore, the reliability of responses and particularly the very demanding test based on confirmatory factor analysis provided stronger support for this instrument than most surveys that are used in higher education. This extensive process of development and good psychometric properties justify the use of responses based on this instrument in the present investigation.

Importantly, our results generalized well across the six different PREQ scales and the overall rating item. It may also be reasonable to argue that there are additional scales that might have been included or even that not all of the scales on the current instrument should have been included (although support for the content validity of the instruments may be used to counter these possibilities). However, it seems unreasonable to argue that all of the scales on the current instrument are inappropriate. Furthermore, although PhD students' evaluation is clearly a multidimensional construct, it seems unreasonable to argue against the appropriateness of the overall-rating item. Indeed, for purposes of a benchmarking exercise, it might be relevant to argue that the overall rating is the most important component to consider. In the present investigation there was good generalizability across two somewhat differently worded overall rating items. Because overall rating items that might be included on other instruments are likely to be similar to the ones in the present investigation, our results based on the overall rating items are particularly likely to be replicable across different instruments.

It might be argued that whereas supervisor is the appropriate unit of analysis for many of the PREQ scales, the university might be the more appropriate unit of analysis for one or two of the PREQ scales (e.g., Thesis Examination and Clarity, see Table 1). This follows in that the examination process of the thesis and the expectations of the thesis are largely determined by university-wide policy in Australian universities. To the extent that variance due to the university accounted for substantially more variation in these scales than in the other scales, there would be support for this suggestion. The analyses, however, were consistent in showing that differences between universities were not statistically significant for any of the PREQ scales. Hence, university differences are uniformly nonsignificant, even for PhD students' evaluation factors that might logically be expected to vary from university to university, further undermining support of the construct validity of the PhD students' ratings of supervision.

Significantly, this pattern of results in the present investigation is also consistent with those from the large body of research based on students' evaluations of classroom teaching effectiveness showing that even when students were asked to rate the overall course rather than the overall teacher, their ratings reflected primarily the teacher who taught the course rather than the course that was taught (Marsh, 1987) This continuity with other well-established findings in related areas of research provides good support for the generalizability of results from the present investigation

The sample of research higher degree students in the present investigation is broadly representative of those graduating from Australian universities The sample of universities includes almost the entire population of Australian universities and includes diverse institutions (e g , old, well-established research universities and new universities that were primarily teaching colleges and did not grant PhDs prior to the 1990s) There are features of the Australian PhD that are different from those in many other countries (e g , a greater emphasis of the PhD thesis with little emphasis on coursework and qualifying examinations, the use of examiners external to the university to evaluate the thesis), but most components of the PREQ are likely to be broadly appropriate across most research university settings Although it is always desirable to have larger samples, the size of the sample considered here (1832 students from 32 universities) is sufficiently large to address the questions that are the focus of the present investigation Substantially larger samples might have resulted in "statistically significant" results due to the increased power of the analyses, however, it is highly unlikely that the extent of differentiation between universities would be sufficiently large to provide a useful basis for benchmarking universities Hence, we argue that it is likely that the results reported here will generalize to different university settings

One particularly relevant limitation of the present investigation that warrants further research is the identification of the supervisor(s) when PhD students rate the effectiveness of their research supervision Because of this limitation we were unable to evaluate the ability of PhD students' evaluations to differentiate among different supervisors We argued that there are apparently insurmountable difficulties (e g , potential conflict of interest and the small number of students for each supervisor) in pursuing this issue Nevertheless, we also contend that PhD students' ratings would be able to differentiate between supervisors if these difficulties could be overcome This could be a very important result in terms of improving the quality of research supervision, recognizing and rewarding effective supervisors, and, perhaps, matching students to supervisors It is important to emphasize, however, that even if PhD students' evaluations were able to differentiate reliably between supervisors, this would not undermine our conclusion that the evaluations are not very useful for benchmarking universities Because the quality of supervision at any given university is likely to be very diverse, it is unlikely that there is substantively meaningful variation in the quality of supervision at the university level Hence, the limitation of not targeting the particular supervisor in the PhD students' evaluations may be important for purposes of evaluating the potential usefulness of these ratings for other purposes but apparently is not an important limitation in terms of benchmarking universities

In conclusion, we argue that the present investigation provides an appropriate starting point for any such evaluations based on different survey instruments, different universities, or different groups of students In particular, the results demonstrate that traditional (single-level) criteria used to evaluate the psychometric properties of responses to survey instruments may not be appropriate if the purpose of the responses is to compare different universities or academic programs within universities More generally, our methodological approach and results illustrate some of the potential complications and subtleties that are likely to be encountered in such a research program

Notes

[1] In Australia, research higher degree students complete an extensive thesis at either the PhD level or the Master's Honors level In each case, the focus of the research training program is primarily the final thesis that is externally examined by two (Master's Honors) or three (PhD) examiners who are external to the university and will often be from universities outside of Australia The program typically involves little or no formal course work or qualifying examinations, although there typically are annual reports completed by students and supervisors to monitor progress For purposes of the present investigation, we use the term PhD students generically to include all research higher degree students and the acronym PhD students' evaluations to refer to evaluations of the supervision and research training experience by these students

[2] It is curious that most of the differences between universities involve a single NZ university where the ratings were exceptionally low and the number of students was exceptionally large (representing more than 15% of the students from the entire study and more than double the number of research students from the largest Australian university) Although clearly beyond the scope of the present investigation, it appears that this apparently anomalous result represents idiosyncratic circumstances (e g , the sample may have included course work master's students who did not receive much in the way of research supervision because they were not enrolled in a research degree course) at a single NZ university Although unexplained, the anomalous results from one of the 32 universities do not provide an adequate basis for the claim that PREQ responses were able to discriminate among universities, particularly given that there are no significant differences between the other 31 universities and that the variance component representing differences across all universities is not statistically significant

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Mario C. Martinez

Understanding State Higher Education Systems

Applying a New Framework

Introduction

An old fable tells of three blind men who each describe a different part of an elephant but are unable to collectively determine that what they have before them is indeed an elephant. This analogy is somewhat applicable to the study of higher education systems Past efforts have examined different parts of the higher education system—institutional administration, governance structures, and state policy environments—yet describing it holistically has remained elusive

Some researchers have attempted to bridge two or more pieces of the higher education system elephant, others have focused on a single piece Eulau and Quinley's (1970) historic study of legislative leaders in nine states sought the state policymaker perspective of higher education on issues ranging from finance to governance Foundational governance investigations (Berdahl, 1971, Glenny, 1959, Millet, 1984) articulated the purpose of governance structures and primarily studied higher education autonomy in relation to the state

More recent studies have built on these past themes or continued along similar lines (AGB, 1998, Hearn & Griswold 1994, Jones & Skolnik, 1997, Marcus, 1997; Martinez, 1999; McGuinness, Epper, & Arren-

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Mario C Martinez is an assistant professor in Educational Management and Development at New Mexico State University and an associate researcher for the Alliance for International Higher Education and Policy Studies project administered out of New York University

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dondo, 1994, Schick, Novak, Norton, & Elam, 1992) They have examined issues of governance structure impact and change, legislative and trustee perceptions, and internal factors that contributed to changes in structure

In 1994 the California Higher Education Policy Center initiated an effort to develop a conceptual, holistic understanding of state higher education systems by not only studying higher education structures but the environment in which the structures lived The study defined a state system of higher education to include public and private postsecondary institutions as well as the arrangements for regulating, coordinating, and funding them The culmination of this work (Richardson, Reeves-Branco, Callan, & Finney, 1999) was a framework that integrated theoretical notions with seven empirical case studies

The framework was intended to aid policymakers and higher education leaders in determining if a state's policy priorities and the role it assumed aligned with higher education's structure In effect, it considered organizational design and performance within the context of the system's policy and management environment

Purpose

The purpose of this research was to investigate the applicability of an existing higher education systems framework, along with its definitions, to a case-study state that was not used in its derivation Yin's (1994) notion of analytical generalization was especially germane as I was trying to determine if Richardson et al 's existing framework could help me understand similar issues (policymaker role, governance structures, and higher education performance) upon which the framework was built but in a different setting The questions I sought to answer included (1) Did the framework aid in the descriptive construction and analysis of the case study? and (2) Through my analysis, what could I confirm about the framework and what could be extended, modified, or refined to help future research?

Regarding the first question, I was specifically interested in compatibility between the state's policy role toward higher education and the higher education structure An ingrained assumption in this question was that noteworthy issues outside the boundaries of the framework could surface, and methodology should accommodate for that possibility The second question highlights that I was taking an existing framework not knowing whether evidence from my case would produce inconsistencies or contradictions that might question specific elements of the framework My task would then be to explain the details of why a specific element of the framework did or did not work The remainder of the article briefly reviews the framework and provides a synopsis of the case study state The analysis and conclusions are presented in a manner consistent with the way the research unfolded as questions and observations emerged

The Framework

Richardson and colleagues (1999) embarked on an investigation of higher education systems in seven states to conceptualize a general model that would go beyond current descriptions of governance structures by including environmental factors that contributed to overall functioning of higher education systems The resulting model was intended to offer insights about the performance of higher education structures in the light of policy priorities while assessing whether the structures were designed to accommodate and realize such priorities

The authors conceived of a model with three distinct levels in which policy direction may impact system performance An adaptation of the model is shown in Figure 1 The first level, the policy environment, includes characteristics of the state and state government that are a product of history and current events State variables that affect higher education performance that cannot be directly controlled or influenced include demographics, geography, economics, and sociopolitical factors Variables that shape a state's relationship with and its ability to support higher education include relative authority of the executive and legislative branches, constitutional status of higher education institutions or systems, and tax revenue availability

A key characteristic of the policy environment is the role that the state chooses to play to achieve its higher education policy priorities, though any given state may exhibit behaviors consistent with more than one role A consumer advocacy state concentrates on supporting demand, a providing resource state gives great deference to institutional values and provides money to higher education without taking an active role in defining or ensuring that priorities are met, a regulating state controls price and attempts to define the relationship between institutions and the market, and a steering state focuses on policy outcomes and tries to structure the market to realize those outcomes

The system design is the second level shown in Figure 1 and includes higher education capacity, organizational designs of higher education institutions and governance structures, and the assignment of responsibilities for achieving higher education goals Segmented systems have multiple governing boards, unified systems have a single governing

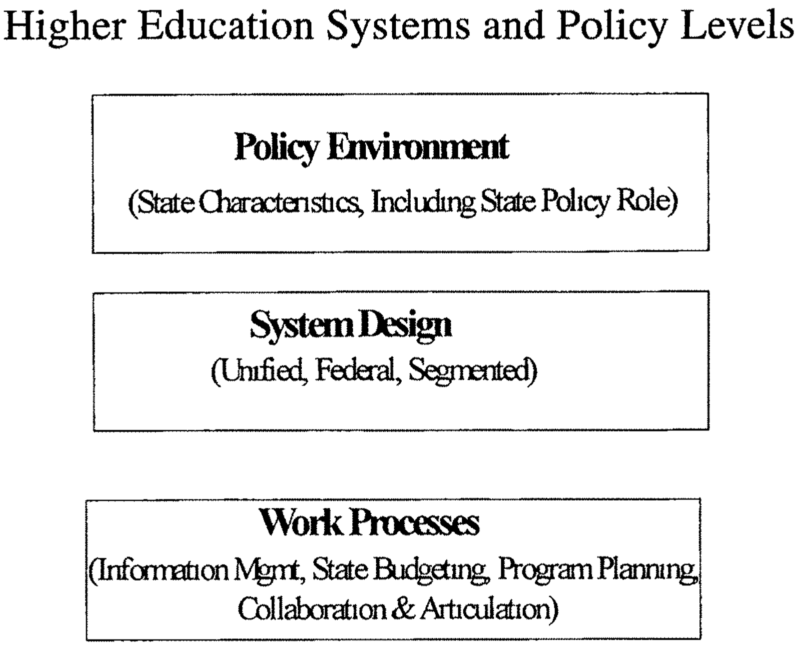
Higher Education Systems and Policy Levels
Policy Environment
(State Characteristics, Including State Policy Role)
System Design
(Unified, Federal, Segmented)
Work Processes
(Information Mgmt, State Budgeting, Program Planning, Collaboration & Articulation)

FIG. 1. A General Model of State Higher Education Systems

board, and federalist systems have a statewide board in addition to a governing board(s). Handy's (1992) principles of interdependence, common rules, common measurement and communication, and twin citizenship characterize unified systems. Twin citizenship is the degree participants feel membership in both the larger system and their individual institution. Federal systems include the same characteristics as a unified system but add separation of powers (e.g., division of responsibility for public interest and institutional management) and subsidiarity. Subsidiarity limits the size of the central system and thereby preserves the role of the individual institutions.

Although the system design gives shape to work processes that occur within the system, Richardson et al. (1999) defined a separate work process level, as shown in Figure 1, because many policies explicitly target some factor within this domain. Work processes are a key component of the structural dimension of a higher education system and encompass day-to-day practices, activities, and procedures of managing and administering. The four major areas the authors identified were information management, state budgeting methodology, program planning, and articulation and collaboration. These work processes are operational tools from which policymakers or institutional management can strengthen market or institutional influence.

Each level in the model is affected by the other levels. A primary aim of the model is to assess compatibility across levels. Of particular interest to the framework's authors was the compatibility of the state's role to the design of the higher education system. The original seven study states served as the initial foundation upon which the various conclusions of compatibility were based, though the authors made no assertion that the conclusions could be generalized. Table 1 is a general summarization of the authors' findings (Richardson et al., 1999, p. 168) relating the compatibility of a state's policy role with its higher education system design.

In essence, the question of compatibility addresses whether the system design and state's role are in conflict. The authors asserted that to perform effectively, systems should be designed to be compatible with their policy environments. For example, a state that tries to regulate a constitutionally autonomous university system (segmented design) may be unsuccessful because the design of that system repels regulation.

Finally, Richardson et al. (1999) state that it is relatively easy to influence the work process level in the short term, and this has historically provided an attractive avenue by which policymakers attempt change. Although system design changes are more difficult to employ, Marcus's (1997) chronology of such changes illustrates that this mechanism has been used by states.

Methodology

My purpose of applying the framework to a case study state not used in the framework's conception was to analyze its application and usefulness to a new setting. The National Center for Public Policy and Higher Education (NCPPHE) sponsored and funded a case study of South Dakota's higher education system because it was interested in what appeared to be policy-driven change in the state.

TABLE 1
Compatibility Between System Design and State Policy Role

State Role Design	Steering	Consumer Advocacy	Regulating	Providing Resources
Federal	Compatible		Mismatch	
Unified		Compatible		
Segmented			Mismatch	Compatible

In cooperation with NCPPHE staff, I gathered empirical case data before the site visit to gain sufficient knowledge of South Dakota's context The case data included state documents, state higher education generated data, U S Census data, reports from national academic and consulting sources, and newspaper articles The preliminary data gathering also served as a backdrop against which to compare eventual interview results

I accompanied two NCPPHE staff members to South Dakota to interview higher education administrators, board members, legislators, and policymaker aides NCPPHE staff selected interviewees that were representative of the policy and higher education environments and were in leadership positions in their respective environments Those policymakers who had a record of interest and activity in participating or initiating legislative changes in higher education were the preferred targets for the interviews We conducted a total of 11 in-depth interviews on site and asked each respondent to recommend any other persons that we should contact Based on interviewee suggestions, I conducted telephone interviews with three additional administrators, three faculty members, and two state economists

Prior to the site visit, we developed an interview protocol to obtain participants' perceptions regarding South Dakota's higher education environment, its effectiveness at meeting state policy goals, and whether change had taken place and what accounted for it Our strategy was to use the protocol only as a guide rather than to ask formal questions Each conversation started off with a brief introduction explaining our interest in higher education policy in the state, but we then invited the respondent to address any significant higher education issues that might help us understand policy, change, and the intersection thereof The open-ended interview approach, advocated by Jahoda, Deutsch, and Cook (1951), is meant to accommodate the informant's unstructured responses to issues rather than to adhere to a fixed interview format We asked about protocol issues that were not addressed near the end of the interview if the conversation seemed amenable to addressing those areas

Each team member produced independent notes from each interview, immediately audio recording the notes following the interview After all of the audio recordings were transcribed, I coded and sorted them according to a coding scheme I had developed prior to the interviews Of central importance was that the coding scheme was primarily predicated on the general concepts defined in the framework I tried to create coding categories that were sufficiently general, would allow for flexibility and revision, and not completely impose themes on the coming interview results Revision of coding themes is a common practice, because the categories used by the analyst may be preexisting or they may emerge from the data (Bulmer, 1979) Some coding themes were in fact revised after the interviews, but presetting the coding scheme to align with the concepts in the framework allowed me to begin answering my study questions

The intent of initial data gathering, protocol design and coding scheme was not to enter South Dakota with preconceived notions of how the case study would eventually evolve We wanted to be open to issues we had not considered, but we did choose to study the state because we had a general theme that we were interested in, namely policy-driven change in the state's higher education system The very reason for employing open-ended interviewing techniques and coding categories subject to revision was to help balance researcher bias with openness to emerging data

I used the three levels of the model (policy environment, system design, work processes) as the major themes to organize and file all case data By using three superseding categories, each having several subcategories, I was able to build what Yin (1994) refers to as a case study database Organizing the data in this manner also allowed me to compare results from different sources and respondents Once the database was completed, I constructed the outline for the case and produced the descriptive study The last step was to directly consider the concepts of the framework with regard to the South Dakota case to answer the research questions fully

Case Study Background

A synoptic description of the South Dakota case study is necessary for understanding the analysis and findings of the study The sections of the description follow the format of the policy levels established by the model I was testing These levels include subcategories, but the major headings of the descriptive synopsis are as follows policy environment, system design level, and work process level

South Dakota's Policy Environment

Policymaker Participation and Roles

Some significant changes in South Dakota higher education, although the result of many events, have developed from a process that has helped move ideas toward actual implementation—the "roundtable" discussions Roundtables are used as a strategy for change in South Dakota as a means of developing consensus on priorities and on the actions necessary to address those priorities. Several changes have resulted from these discussions or are in motion. The state adopted a new budgeting formula for higher education and allowed institutions to invest money in targeted areas of institutional interest. The institutions have worked on strategies to become more efficient and have elevated such issues as student quality and faculty pay to the forefront.

Initiated in 1995 by the Board of Regents, the roundtables brought higher education stakeholders together for discussions about state higher education issues. Some roundtables targeted policymakers or business constituents, others were held at universities to garner faculty and administrative input.

Participation in the roundtables—which included the governor and top legislative leaders—could easily be described as successful. Virtually every interviewee mentioned the usefulness of the roundtable discussions, not only as a means of opening communication lines, but also as a way of sharing ideas and information. A number of legislators have become actively engaged in higher education issues mainly due to their participation in the board-initiated roundtables. A state senator who served as a co-convener to one roundtable captured what appears to be another important role the dialogues have played in South Dakota higher education over the last four years: "We have gotten people in a room talking about the problems—and I think that has helped us to initiate policy-driven change."

In some cases, the roundtables clearly produced agreement among state lawmakers and higher education officials. In other cases, such as articulation between the state universities and the technical institutes, disagreement persists. In all cases, it seems that the roundtables were successful in putting issues on the table. One higher education leader who believes significant change has occurred said, "The number of political actors in South Dakota is relatively restricted and well known; if you can align the players, you can get something done." According to another respondent, the roundtable process has been effective in South Dakota because the executive director of the South Dakota University System (SDUS) has been able to come to the roundtables with an agenda and use the process as a means of building consensus around that agenda.

State Context

South Dakota is a sparsely populated state that will grow at a slow rate over the next 15 years, but the number of South Dakota high-school graduates is projected to decline 3.3% over the same time period. The state has experienced a strong economy over the last several years, but its 1996 income per capita remained well below the United States average

Policymakers and higher education representatives believe that there will be more demand in all sectors of the economy for trained professionals, especially in areas related to technology Still, there is a sense among the leadership that the state cannot supply enough opportunities to retain all of those who acquire a university education

The state does produce a large number of baccalaureate degrees relative to the number of high-school graduates, but the number of adults with a college degree in South Dakota is lower than the average of states in the region (NCHEMS, 1998) An explanation for this discrepancy is that college graduates are leaving the state upon graduation, in search of better jobs

Political Climate

The legislature and governor At the time of the study, statewide offices were dominated by Republicans The Legislature meets part-time, and all legislators are elected to two-year terms, with a limit of four consecutive terms in either house

Republican Governor Bill Janklow was reelected to his fourth term in the November 1998 mid-term elections He served two terms as governor from 1979 to 1987 and was elected to a third term in 1994 In the interim, George Mickelson was elected to two terms South Dakota is classified as a strong governor state because of the governor's veto and budgetary powers (Burns, Peltason, & Cronin, 1990) Also important to the governor's influence are the characteristics of a part-time Legislature that has virtually no staff, meets 35 to 40 days a year, and must sift through some 700 bills on an annual basis, a fraction of which are related to higher education Higher education administrators and legislators suggested that any significant change in the state would certainly require the governor's approval if it were to be successful, though most did believe that the governor is committed to supporting higher education One higher education respondent emphasized, "This is a very strong governor state The Legislature has no staff or information The governor has a lot of information needed to make decisions "

State finances South Dakota has no personal income tax, collects relatively little from corporate net income, and has consistently reduced property taxes over the last several years One regent echoed a concern of many we spoke with, noting that "demographics constrain our state revenue structure because it is so sales dependent, and we don't see great population growth in the future "

Education (which includes K-12 and vocational institutes, but not higher education) is by far the largest general expenditure for the state. However, higher education in South Dakota has fared better than the national average across various higher education spending measures. The state's five-year growth rate (21.7%) in higher education spending between 1991–92 and 1996–97 is well above the cumulative national spending growth figure of 15.7%. South Dakota's spending rate per student also increased faster than most states during the same time period, though the actual dollar amount for this measure remained below the national average (Halstead 1997).

Tuition and student aid. Indicators of higher education affordability in South Dakota are mixed. There are no public community colleges in South Dakota, so the option of a public two-year postsecondary education rests primarily with vocational institutions. Estimated costs of a 32-hour course load per academic year at a vocational institute are higher than the national average cost of attending a two-year community college, though public and private tuition at four-year institutions in the state is lower than the national average.[1]

Tuition as a percentage of total revenues (defined as tuition plus state appropriations) was 42.1% in 1996–97 for South Dakota, whereas the national average was 31.4% (Halstead, 1997). This means that students are paying a larger percentage of their educational costs than the national average, not that actual tuition is higher. Most legislators accurately commented that students pick up about 42% of their higher education bill, with one state senator offering, "I think it can incrementally increase and I don't think it would be a big concern."

The data on student financial aid reflects the perspective that borrowing is a normal part of receiving a higher education in South Dakota. Seventy percent of South Dakota University System (SDUS) student aid is in the form of loans, compared with a 48% figure nationally. South Dakota devotes few resources to state need-based aid and, in fact, currently provides more merit than need-based scholarships to its students. Finally, in 1996–97, SDUS students received 56% of their grant aid from federal sources and 1% from state sources, compared to national figures of 31% and 16%, respectively.[2]

System Design

South Dakota has 24 postsecondary institutions, 10 of which are private, and 4 of which are public technical institutions. The six public four-year institutions dominate postsecondary enrollment. The SDUS Board of Regents governs the state's six public universities as a system of higher education. The nine members of the board are appointed by the governor and confirmed by the Senate. In addition to governance and systemwide planning responsibilities for public higher education institutions, state-level planning falls within the board's purview (McGuinness et al., 1994). Public tuition at South Dakota's universities also is set by the Board of Regents.

The board appoints an executive director to serve as its chief executive officer. In 1994, as part of a statewide effort to develop policy-driven change in higher education, the board adopted a governing approach that placed greater emphasis on system leadership, largely through the position of the executive director. Policymakers and university administrators were very upbeat in discussing the current composition of the board, using words such as "synergistic and eclectic" to describe the members. One university president said, "Governor Janklow has done a good job making his appointments."

The other major branch of public postsecondary education in the state is the technical institutions. There are no community colleges in South Dakota, though one legislator cautioned, "It is best not to get stuck on what we call institutions but focus on what they do and how they can meet state needs." The State Board of Education governs the four technical institutions in the state, but their operations continue to be under the administrative control of the K–12 school district boards that first initiated them as area vocational schools in 1965 (Sullivan, 1997).

A festering issue in the state that may soon come to the forefront is the governance of the technical institutes. Recent events regarding articulation and two-year offerings seem to have created this debate, resulting in strong differences of opinion about the role and intent of the technical institutes. Many higher education representatives believe that the technical institutions are already moving toward an academic function in offering two-year degrees while maintaining their niche of serving the business market. Regent respondents said that if the technical institutions were under their governance structure, then coordination and program planning would more effectively meet the state's needs.

Complicating the picture is the high regard policymakers have for the technical institutions and their sound reputation throughout the state. Legislative reaction was mixed, cautious, and contemplative regarding a restructuring. One legislator said, "We have a wonderful Votech that is meeting our needs." The technical institutes are happy with the current governance arrangement and believe it makes sense. An institute director responded that "there would be no reason to change our mission or governance structure because we are doing an excellent job of meeting current business needs."

Work Processes

Budget changes The instructional formula designed in the 1970s can best be described as input driven because it was largely dependent on enrollment The new base-plus method, as it is called, allocates state higher education appropriations and 80% of tuition revenues into a single pool for the six public universities (SDBR, 1997) A significant portion of the pool will support a predictable base for each institution that is not dependent on enrollment and will adjust for inflationary increases over time

Budgetary changes were intended to be linked to state policy goals The nine state policy goals that evolved from the roundtable discussions concerned the following areas access, economic growth programs, academic improvement, human resources, faculty development, collaboration, technology infrastructure, facilities and equipment, and external funds (SDBR, 1997) The base is intended to support policy goals that are believed to directly affect instruction, operations, and other core activity

The legislature also endorsed the board's plan to pursue a performance-based funding policy, whereby 5% of the pool will be awarded to public institutions that meet certain policy objectives The funding will be divided equally among five policy incentives access, economic growth programs, academic improvement, collaboration, and increases in non-state funds (SDBR, 1997) These priority areas were determined in consultation with the legislature Each institution established (after negotiation with the Board of Regents) a target for each of the five policy incentive areas If the institution meets or exceeds a goal, they receive the 1% associated with that goal, if they do not meet the goal, they do not receive that portion of their funding

Opinions differ as to how performance-based funding will work Some reserve comment or believe no changes will happen A House representative echoed an opinion by a Senate colleague when he said, "If each university ends up with five percent of the incentive funding, this whole thing may be a fallacy" Higher education officials were more inclined to believe significant movement toward state policy goals is clearly within sight Finally, there are those throughout the state that believe things will change—but only on the margin

Collaboration According to most of the individuals we spoke with, one of the most significant changes in higher education in the state over the past 10 years has been a noticeable change in the way the SDUS operates Rather than each institution acting on its own behalf, the institutions have acted much more for the good of the system Institutional administrators used words like "unified" and "collective" as they spoke of recent efforts between and among one another The roundtable process itself was also more effective once institutions of higher education could approach issues collectively, rather than in competition with one another.

The evolution of the state's six universities acting more as a system was a result of many factors In the 1980s Governor Janklow, by most interviewee accounts, appointed competent regents Governor Mickelson, who succeeded Janklow, fully funded the enrollment formula and simultaneously asked how the universities could become more integrated In 1993 the formula was no longer fully funded, but ironically, this too may have pushed the institutions and the board to work together in the face of unpredictable funding

Board influence also began to increase, and the universities were "constantly pushed to work together," according to one president. The board reinforced the unified approach to higher education in a 1997 policy statement In response to policymakers who were concerned with unnecessary duplication within the system, the board called for a unified approach reflected in administrative services and in the use of academic resources. The policy statement established statewide discipline councils in eleven academic disciplines The intention was to develop greater collaboration with regard to curriculum offerings, as well as in the development and deployment of resources (South Dakota Board of Regents, 1996)

In addition to creating a common policy agenda for public higher education, the idea of working together as a system has encouraged some partnerships between institutions For example, institutions have begun to collaborate on course offerings, particularly in low enrollment programs, when combined system enrollments may indicate a need for continuing those programs And successfully transitioning to a new state budgeting process for higher education had systemwide support and was skillfully advocated by the board

Efficiency and program planning The Legislature in 1995 passed a resolution calling on higher education to be more efficient. Whereas most areas of state government were seeing reductions in funding, higher education did not The Board of Regents used the roundtable process to strategically determine how the system might respond if faced with a budget reduction

The board called on institutions to find savings in their base budgets equivalent to approximately 10% of the budget for instruction Savings came not only from eliminating low-enrollment programs, but also from redesigning enrollment service centers, administrative consolidations, and minor changes in business practices The system successfully generated the 10% savings Institutional executives apparently thought this effort was a unified effort One president commented, "We tried to come up with the money in a way that would do the least harm to the system "

At a roundtable held just prior to the 1996 legislative session, the board brought a proposal for strategies to reinvest these savings. The major product from this roundtable was an agreement (which Governor Janklow bought into) to allow each institution to reinvest the savings it could produce while requiring that the reinvestments be made in high priority activities. The priority areas included the establishment of Centers of Excellence at each of the institutions, investments in technology infrastructure, curriculum redesign, and K–12 linkages.

Each institution was free to define the theme of its Center of Excellence, allowing it to add additional resources to an existing area of interest or strength. The Center of Excellence at Dakota State University, for example, emphasizes information technology. The Centers of Excellence at other campuses focus on such areas as engineering processes, math and science education, and international business.

The Centers of Excellence also have been a mechanism to enhance quality. The SDUS is trying to provide evidence of quality and accountability through other means as well, such as standardized testing for college sophomores, changes in admissions standards, and the quality of academic programs. Faculty pay has been of interest to board members as well as to faculty, because South Dakota professorial pay ranks near the bottom of the scale among the fifty states. Though some pay increases have happened, perceptions regarding impact on faculty quality are mixed. One faculty member flatly stated, "When you're at the bottom, small increases don't make big differences."

Many of the changes meant to enhance quality—from pay to admissions standards—are in motion, but beliefs about the efficacy of those changes is largely dependent on whom one asks. Interestingly, many of those who seemed convinced that all the changes would increase quality, referred to the preference of top prospective, resident students picking out-of-state institutions.

Articulation. In terms of articulation, technical institutes previously worked with individual universities to arrange agreements. In 1998, however, the Legislature passed an articulation bill that required the university system to take up to 64 credit hours from technical institute students who wished to transfer to a university. One institute director said that his previous arrangement with an individual university had been working well, and that the articulation bill "had complicated the issue." From the board's perspective, articulation should be a system-to-system arrangement, and the bill means the universities must take the credits, but "it doesn't necessarily mean that they will count for any particular major."

At one roundtable session, legislators perceived the data on articulation provided by the Regents to be incorrect and were upset at how the issue was being handled This seemed to be consistent with the legislative input provided in the interviews, because some individuals believed that the university system was putting up too many roadblocks and that there should be no problem transferring courses

Summary

There have been several policy-driven changes in higher education in South Dakota over the past five years State policymaker participation and thus the state's role in higher education issues has become more involved over the years largely because of the roundtable discussions The process of the SDUS becoming more unified occurred simultaneously with the roundtables, both of which helped the state to plan and push for policy-driven change Examples that have generated mostly positive anticipation can be found in the state emphasis on reinvestment through efficiencies and in the shift away from formula-driven budgeting Other changes, such as articulation and efforts to increase system quality, are viewed with more caution and skepticism

It is too early to suggest that South Dakota's policy-driven changes in higher education have been—or will be— successful across the board What is clear is that South Dakota does not rely on providing students with information or resources to guide change And the changes that have taken place or are in consideration have been driven not by the institutions or students but by policymakers and administrative leadership at the state level

Analysis

Richardson et al 's (1999) three policy levels served as a helpful guide to begin formulating a picture of South Dakota's higher education environment Table 2 is a duplicate of Table 1, but my initial conclusions of South Dakota are also included Richardson et al addressed five of the twelve possibilities listed in Table 2 South Dakota occupies a combination of design and state role that was not addressed in the original study, and I will explain my placement and conclusion about compatibility in the remainder of the article

After completing the descriptive case of South Dakota, I placed the state where it best fit on Table 2, given my initial analysis of the state My conclusions were based on theoretical premises, case study facts, and respondent input. The design dimension from Table 2 was fairly easy to classify based on two prominent facts from the case study description First, South Dakota higher education is dominated by its six public universities and, more than ever, the institutions operate as a system The formal organizational structure of the SDUS also is aligned

TABLE 2
Compatibility Between System Design and State Policy Role

State Role Design	Steering	Consumer Advocacy	Regulating	Providing Resources
Federal	Compatible		Mismatch	
Unified		Compatible	South Dakota* theoretically compatible, mixed respondent results	
Segmented			Mismatch	Compatible

*Not part of original study

with the description of a unified system Second, Handy's (1992) requirement that twin citizenship (the degree to which participants feel part of the larger system and the institution to which they have their primary allegiance) typify unified systems is evident in the case study and interview results, particularly with institutional presidents

South Dakota Regulation of a Unified System

The state's role is more difficult to define because there were multiple factors to consider, and every state probably exhibits some minimal level of each role My strategy was to eliminate the roles in which the state was weak South Dakota's role of consumer advocacy, for example, is almost nonexistent The state provides virtually no aid for students, most of whom rely disproportionately on federal aid compared to their peers in other states

The state also cannot be categorized as a provider state, an environment in which colleges and universities experience the greatest degree of autonomy SDUS institutions do not have constitutional autonomy and by no respondent's opinion were administrators of the institutions free to exercise their will

The two remaining state roles are that of steering and regulating State policymakers and state-level regents have defined policy outcomes, but there is little use of the market to achieve these outcomes—something that would characterize a steering state Aligning policy priorities to appropriate market strategies in South Dakota would require great creativity, because two prominent mechanisms that allow for market utilization are largely absent private institutions and student aid In addition, no evidence in the case study suggested that the recent state budgetary changes and the implementation of performance measurement will give institutional administrators significantly more discretion and flexibility in managing their resources

Policy outcomes were defined by the regents and bought into by policymakers, tuition is controlled at the state level, most significant changes that appeared in the case study were spearheaded by state-level officials, and institutional leadership works under the auspices of the board but never bypasses it Finally, the change initiatives that occurred in both budgeting and reinvestment were largely top-down driven All of this led to the conclusion that South Dakota's state policy role is predominately regulatory

Richardson et al 's (1999) study did not cover the case of a unified system operating in a state that appeared to assume a regulatory role, so I was unable to immediately make any conclusions regarding compatibility However, one might reasonably hypothesize that a unified system may function well under a regulatory environment A single, centralized governing board is well positioned to enforce rules and initiate change This certainly seemed to be true for changes in the case study Thus, from a theoretical standpoint, my conclusion was that system design and state role were compatible

But to tie compatibility to the facts of the case, I defined the individual issues that were of significance in the case, the state's role regarding those issues, and how respondents felt about the issues Thus, respondent satisfaction and perception regarding the various issues were used to confirm theoretical compatibility Respondent satisfaction was analyzed from the coded notes The coded scheme allowed me to group respondent reactions together for each major issue, thus allowing a general comparison of respondent input against the general theoretical designation of compatibility

The Issues

In South Dakota the overwhelming majority of postsecondary students attend the public universities, making university-related issues particularly salient Table 3 displays the five salient issues that emerged from the South Dakota case study All of the issues directly related to the public universities and appear in order of frequency and depth with which the issue appeared in the case

The corresponding system design, state policy role classification, and comments regarding compatibility are included in Table 3 When I analyzed the issues separately, a conflict arose in my previous designation of the system design as unified Some important issues dealt with the state's technical institutes, and these institutes are governed by an autonomous body that is not part of the unified university governance system Issues that crossed postsecondary sectors created a need for a secondary system design classification of "segmented" In these instances, a broad definition of system design as given in the framework appears problematic For reasons previously discussed, a general system designation of unified is probably still appropriate, though I will discuss implications of this issue in the final section

Most of the issues in Table 3 dealt with the work processes identified in the model The inclusion of a work process issue, system design, and state role in the table corresponds to the three policy levels discussed at the beginning of the article

In Table 3, the two dominant issues solely involved the public universities, or the unified system State-level respondents (board members and policymakers) and institutional administrators seemed positive about the development of policy outcomes in tandem with budgetary changes and the promise of stability in base allocations for the institutions Reactions were less consistent regarding the utilization of performance measurements as an incentive portion of institutional budgets some respondents believed it to be a sham, and others believed it to be an effort to appease accountability calls Board members seemed most supportive of the incentive component of the budget, whereas legislators were more likely to question its intent and subsequent results

Respondents were generally satisfied with the various activities spurred by the Reinvestment Initiative, which was largely about increas-

TABLE 3
Determining Compatibility in South Dakota

Issue	System Design	State Role	Compatibility Conclusion
State Budgeting	Unified	Regulatory	Mostly optimistic regarding tie to policy outcomes, mixed regarding performance measurement
Reinvestment Program Planning Collaboration Centers of Excellence	Unified	Regulatory	Positive about prospects and current level of changes and activity by most respondents
Quality Efforts	Unified	Regulatory	Mixed regarding current quality levels and efforts to improve quality
Articulation	Segmented	Regulatory	Ineffective, disagreement persists
Technical Institute Governance	Segmented	Undefined	Sharp disagreement

ing efficiency There seemed to be optimism that programmatic issues were finally being addressed that might enhance system efficiency, and this, along with other pressures and incentives, was creating opportunities for institutions to collaborate and engage in other worthwhile activity

Academic quality also emerged as an issue in the case Several respondents spoke of quality and effectiveness in the same breath, though quality was mentioned much more and equated with improvements in the system or current attempts to improve the system My perception was that the interviewees associated effectiveness with a conclusive outcome, and several were hesitant to make a final assessment because of the various changes that were in motion at the time of the study For these reasons, and because quality was a more established theme than effectiveness after my coding analysis, I choose to pursue the issue of quality

Though most parties were in agreement that changes needed to be made and spoke positively about the changes that were transpiring, there were vastly different opinions regarding current quality Particularly notable was pessimism by board and faculty members regarding current issues of quality that have been targets for improvement For example, several respondents applauded efforts to increase faculty pay but doubted the increases would be enough to increase the overall quality and perception of the system

The last two issues involved the university system and the technical institutes, thus the system design was designated as segmented Articulation, which is a work process, seemed to be a concern for state policymakers in particular In the policymakers' view, there were few or no acceptable standard articulation guidelines, so the state tried to regulate change by passing a law mandating such an agreement As Table 3 displays, the regulation effort was ineffective and disagreement persists Some technical institutes even thought they were better off without a mandated agreement Respondent opinion of compatibility between the state's role and the two segmented systems was fairly straightforward nobody was happy, satisfied, or thought that the articulation issue was resolved

The state's role in addressing the governance of the technical institutes is unclear The change has not yet gained enough momentum to make a judgment, and policymakers still seem to be gingerly assessing their role on a very contentious issue that directly deals with system design Respondents agreed, however, that a governance change of this sort would require state action by a state leader who could afford to "take a few hits "

Research Questions

Did the Model Design Aid in Description and Analysis?

My first question in testing Richardson's system model was whether or not it was helpful in conducting the description and analysis of South Dakota's higher education system. The model contributes to the literature by urging the researcher to look at higher education structures and designs not in isolation but in the context of their environment and its internal processes. This description in the South Dakota case inches us closer to truly viewing higher education as an open system. It also opened the door for further investigation. Indeed, the more interesting questions concerned the model's applicability to the case analysis.

Strengths of the Model Design in Analysis

The model had two primary strengths that aided the analysis of South Dakota. First, the model provided points of clarity for thinking about relationships among and between the three levels that comprised it. For example, the model provided a vehicle to talk about budgeting (work process level) and analyze the role state policymakers (state policy level) and the Board of Regents (who, theoretically, operate at the systems design level) assumed in making changes to state budgeting.

This led to the second strength: calling attention to the levels of a higher education system to determine whether compatibility exists between those levels. This assessment offers a new perspective on analyzing policy-driven change and the likely success, resistance, or failure of that change. The model did not intend to cover every combination of state policy role and system design, but with case data and existing organizational research, the investigator is well positioned to make his ultimate assessment of compatibility and its effect on change. According to the framework's authors, if compatibility among and between the policy levels is absent, conflict, frustration, and gridlock result (Richardson et al., 1999, p. 200). In South Dakota, theoretically and empirically, I determined that regulated policy-driven change of a work process was compatible with a unified system design. In addition, changes evident in the case did not produce unusual conflict between the state role and SDUS.

Weaknesses of the Model Design in Analysis

Actual analysis is often messy, and as I tried to use the model to enhance my understanding of South Dakota, there were additional questions that surfaced that were not fully addressed by the model. First, though the model helped me assess compatibility, it did not answer whether compatibility was necessary or desirable for effective policy-driven change to occur Second, the issues in the case encompassed the three policy levels, but analysis suggested another layer of detail merited scrutiny This detail raised questions about designating one general policy role for a state

The State's Role Revisited

Conclusions about compatibility are predicated on the correct classification of the state's role and system design My first research question dealt with the usefulness of the framework in case analysis, and I was specifically interested in the compatibility issue broached by the framework The case details indicated that it was important to revisit who was making or suggesting higher education policy changes, and whether or not this detail challenged my initial classification of the state's role as regulator

In a 1998 report, the Association of Governing Boards of Universities and Colleges (AGB, 1998) interviewed state policy leaders from around the United States and found that the majority of respondents believed higher education trustees had difficulty achieving a balance between advocating for higher education institutions and serving as guardians of the public trust, an issue previously broached by Kerr and Gade (1989) In South Dakota, achieving this balance is complicated by the fact that there is not a clear separation of who makes higher education decisions at different levels

Part of Handy's (1992) advocacy for federalist structures is that management, monitoring, and governance resides in separate units In South Dakota, it was not always clear whether board or policymaker preferences were most influential on changes that involved higher education governance, monitoring, and management This complicated the classification of the state's role, so additional analysis of case detail was appropriate

The board is, of course, part of the system design, as defined by the model If the board errs on the side of advocating its own system and has a heavy hand in "leading" successful legislation, then there is a question in my mind Is the state really regulating higher education or is higher education managing and governing itself while establishing its own monitoring criteria? If the board is more concerned with advocacy and is managing itself because of its prominence with the policymakers, then the state may just be providing what higher education desires This is not a trivial consideration in a state like South Dakota Board representatives can be quite influential and legislators are part-time public servants who depend on information the board or the governor makes available.

From a higher education perspective, particularly from the board's vantage point, two unavoidable questions emerge (1) To what extent can system leadership exert influence on state policymakers? and (2) How does that influence impact how the state's role should be classified?

Case results clearly indicate that South Dakota's board has been able to exert, through its own initiative and leadership, influence on policy-driven change On the balance, though, I would still classify South Dakota as a regulatory state because of the governor's strong influence and the board's collaborative consultation with the Legislature to instigate change The exercise of examining the policy decision makers and their positions in the South Dakota case, however, highlights that state role classification is not always clear cut and usually requires an additional layer of analysis

Conclusions Assessing and Forecasting Policy-Driven Change

The framework derived by Richardson et al (1999) helped me to describe and analyze the South Dakota case study The framework urges the researcher to look at the total system and how the parts of that system work together It is when I started considering the individual components of system design and state role that some challenges arose

It is clear from the South Dakota case study that care must be taken before a system design or state role can be classified according to the framework It may be difficult to classify an entire state higher education system's design and the subsequent state role on a given issue if multiple higher education sectors exist In South Dakota there is a dominant sector, but the existence and importance of the technical institutes serves as a caution that singular designations for system designs regarding particular issues may require further consideration The prominence of the Board of Regents in South Dakota and the relationships and roles played by the individual members affiliated with the board serves as an additional reminder that state role classification also must be made with care

Because I was interested in what I could confirm or suggest regarding the framework, addressing compatibility was of obvious interest It is the one concept in the framework that speaks to the relationship between the levels and whether or not the system is poised for effective performance One can predict compatibility mismatches between structure and management by combinations that clearly place the structure and the state role in conflict Certainly, a system designed for extreme autonomy (segmentation) would feel a Sisyphean burden if it had to operate under a heavily regulated environment

First and foremost, my analysis indicates that if classifying state role and system design is problematic, broad statements about compatibility may not be possible It may be useful to first look at individual issues (and relationships) that define the overall case and then figure out if a general statement about design, state role, and compatibility are appropriate For South Dakota, I concluded it was meaningful to discuss compatibility issues between the SDUS and the state role and the state role and the technical institutes and the SDUS (segmented system)

Thus, the final questions that emerged, in light of addressing the research questions, had compatibility at the focal point (1) Is a general classification of compatibility for a single state always appropriate? (2) If compatibility exists, does it produce desirable results, and (3) Is compatibility a prerequisite for policy-driven change?

The preponderance of evidence in South Dakota suggests that compatibility exists between the SDUS and the state's policy role Of central importance is that the authors of the framework only claimed that compatibility is essential to effective performance—which implies that it is a necessary condition but perhaps not sufficient for effective performance The second question then is whether, according to my case, compatibility produced desirable results

I equate desirable results with effective outcomes, but, as mentioned earlier, respondents more fully addressed issues of efficiency and quality The state's regulatory role with the unified SDUS has produced positive results with regard to efficiency, but quality is still up for debate Those concerned about quality did not deride the changes as senseless, but they stopped far short of claiming that outcomes have improved In my estimation, it is too early to determine whether budgetary changes or efficiency and quality efforts have actually improved effectiveness The verdict will be dependent on the outcome of the data that defines many of the state defined policy areas (e g , access, economic growth, academic improvement) where conclusive data are still lacking As a result I am careful about believing that compatibility always results in desirable outcomes

This leads to the last question of whether compatibility is even necessary for policy-driven change From the South Dakota case, compatibility has coincided with leadership activity and internal changes within higher education This perspective is strikingly similar to prescriptive theories of organizations Structural contingency theory and resource dependency theory both attribute change and success of organizations to leadership and its strategies (Marion, 1999) However, compatibility could mean that the entire system is firmly entrenched in its current state, leadership and its subsequent strategies only maintain the status quo, and changes are marginal and symbolic

To that end I have two conflicting conclusions regarding the state of

South Dakota On one hand, the apparent alignment between the state's regulator role and the unified university system has not only proven capable of producing change, but the optimism and satisfaction among higher education stakeholders seems to outweigh the quality concerns that were voiced by many of the respondents Here, compatibility seems to be a positive prerequisite for productive change

The conflicting evidence comes in the analysis of issues that cross the universities and technical institutes In the spirit of trying to form a potential marriage between two very disparate entities, one is immediately drawn to the conclusion that major change should be top-down driven, something quite common in successful change efforts (Evans, 1996, Goodstein & Burke, 1995) This would imply that South Dakota should assume a regulatory posture in dealing with issues that cross postsecondary sectors, yet the state's experience with articulation has proved less than satisfactory to almost all involved Together the technical institutes and SDUS create a segmented system, and segmented systems do not align very well with a regulatory state posture Conversely, using "carrots rather than sticks" for an issue as divisive as a governance change involving the technical institutes would not be effective If technical institutes are to someday consolidate under the auspices of the university system, it is likely that regulation is the only answer, and according to several sources in the case study, it must be done by the right person (who has nothing to lose politically) at the right time Ironically, here we see an example of a potential change from the status quo that can probably only happen in the midst of incompatibility between the state's role and the system that is the target of that change

Notes

[1] Tuition and fee data for US average and South Dakota four-year institutions were obtained from the *Chronicle of Higher Education Almanac,* 1993 and 1998 Tuition and fee data for two-year institutions in South Dakota were obtained from the South Dakota Department of Educational and Cultural Affairs (SDDECA) and are based on a 32-credit hour academic year, at $50 per credit plus fees Two-year technical institute tuition in South Dakota, based on the SDDECA provided calculation, was $2,352 in 1997 compared to a U S average of $1,283 for two-year public institutions

[2] National comparative data are from a joint report by The Educational Resources Institute and The Institute for Higher Education Policy, *Student grant aid & college affordability* (Boston, 1998), p 22 Data for South Dakota are the from the South Dakota University Board of Regents, *Fact Book Fiscal Year 1998* (Pierre, SD, 1998), p 15

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Patricia J. Gumport
Stuart K. Snydman

The Formal Organization of Knowledge

An Analysis of Academic Structure

Introduction and Objectives

Over the past two decades, higher education scholars have turned their attention to the study of knowledge legitimation, specifically the role of organizational contexts in the social construction of knowledge Examples include the analysis of emerging fields (Boxer, 1998, Gumport, 1988, Slaughter, 1997), the analysis of change within established academic fields (Clark & Neave, 1992, Novick, 1988), and the study of curricular change (Conrad & Haworth, 1990, Tierney, 1989) Few recent studies address the formal structure of academic organizations Those studies that have addressed this domain tend to focus on the nature of the imperatives for priority setting and selective reinvestment that accompany academic restructuring and retrenchment (Gumport, 1993, Slaughter, 1993) Yet they do not examine whether there are concomitant changes in knowledge classification

Research on the dynamics of knowledge legitimation has effectively demonstrated that knowledge has social origins, and its advancement does not unfold naturally in a self-propelled trajectory (Kuhn, 1962, Manheim, 1936, Mulkay, 1979) In addition, these studies offer several

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Patricia J Gumport is associate professor of education at Stanford University, and Stuart K Snydman is a Ph D candidate at Stanford University

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anchoring assumptions that support a line of inquiry for higher education research. First, postsecondary organizations are a primary societal arena in which knowledge is developed. That is, universities and colleges both reflect and reconstitute classifications of knowledge and in so doing establish categories of expertise and knowledge worth knowing. Second, organizational context plays a role in what comes to count as knowledge. Influential factors range from the shared understanding of mission and institutional legacies to the allocation of material resources (money, space, etc.) across fields of study. Third, academic organizations tend to respond to knowledge change with additive solutions, while the complete elimination of structural units is rare. This is due in part to the proponents of academic fields who actively work to promote their ideas and protect their turf. At the same time, existing departments have a self-sustaining momentum as they achieve both local recognition as an established field and material resource flows for tenured faculty lines.

Taken together, these three premises suggest that the study of higher education can benefit from further analysis of the interdependence between organizational context and what counts as knowledge. In this article, we bring to the foreground the formal organizational structure and examine its significance for knowledge legitimation. Our primary objectives are to provide a rationale for the study of academic structure and to illustrate how our conceptual interests translate into empirical inquiry. We argue that changes in what counts as knowledge are reflected in the bureaucratic and programmatic structures of universities.

This article is organized as follows. We begin by introducing the concept of academic structure, which anchors our theoretical and empirical approach. Next, we review the literature that provides the intellectual ancestry of our work. We then identify and develop two research questions as a basis for exploratory analysis: (1) how does the formal organization of knowledge change or remain the same over time? and (2) are there differences across knowledge areas? We present illustrative case study data from a comprehensive state university and conclude with a discussion of implications for further research, for campus leaders and for theoretical development.

The Functions of Academic Structure

We propose the concept of academic structure as the main conceptual anchor in this line of research. Two propositions about the functions of academic structure are central to our argument. First, several structural dimensions of academic organizations shape what counts as knowledge.

Second, modifying the academic structure enables universities to reconcile competing imperatives for stability and change Some elaboration about each proposition is warranted

First, the multi-dimensionality of formal organizational structure has been neglected in higher education research, even though it is well known to those who work and live in academic organizations Many different structural units exist within academic organizations departments and programs, faculty lines and budgets, course requirements and sequences Together they make explicit the division of responsibilities, rules and roles, flows of information, and resources Although such structural elements contribute to rationality within an organization, they do not assure it Dynamism at several levels is noteworthy Over time, there may be normative changes across the academic workplace, such as an increased emphasis on the commercialization of knowledge and other revenue-generating activities There may also be varying degrees of social harmony and conflict within units, some of these may even prompt structural change Within a department, for example, there are changes in course offerings, course content, and pedagogy Across departments there are emerging faculty research interests and interdisciplinary collaborations Such dynamics within the informal structure potentially reconstitute what knowledge becomes recognized and valued

In this study we focus on formal structure because of its significance for knowledge legitimation Acknowledging the co-evolution of knowledge and structure, we highlight the role of structure in shaping the intellectual terrain and supporting those ideas that become established as recognizable fields and specializations We examine two dimensions of the formal organizational structure—the array of academic departments and the array of degree programs offered These two dimensions are distinct yet interrelated Both are highly visible components of academic organizations, and they are comparable not only over time but across a diverse range of higher education settings Moreover, academic departments and degree programs signal continuity or change over time in intellectual jurisdictions (albeit with contested borders), and as such they serve as organizing principles to those inside and outside higher education

Our second proposition is that modifications of academic structure accomplish a critical organizational function for universities and colleges, providing a powerful symbolic mechanism that signals the intention, if not the actual ability, to reconcile competing expectations from the external environment When it comes to knowledge functions, academic organizations have a well-established social charter to embody both stability and change for society While they are expected to preserve existing knowledge for transmission to future generations, universities and colleges are also expected to incorporate and advance new knowledge and to engage in priority setting and retrenchment when mandated

Historically, the ideal structural response to these institutional expectations has been additive Yet over the past three decades changing economic conditions and enrollment fluctuations have prompted academic leaders to question the long-term feasibility of addition *ad infinitum* The realities of constraining organizational factors, such as money and space, have pressured universities to select among existing commitments those most worthy of continued investment Times of priority setting often entail pruning academic units that are perceived to have proliferated excessively and weeding out those that have been deemed obsolete In the contemporary era, such targeting and consolidation of academic units have been justified due to fiscal constraint and rationalized by criteria that may characterize units as of poor quality, less central to mission, or too costly In fact, mandates for such priority setting have become so widespread in the 1990s that some experts have declared that the principle of additive solutions has been replaced by a new principle "change by substitution," that is, if something new is added, something old must be eliminated (Levine, 1997, Massy, 1996) In this way, the pressure to adapt runs directly counter to the organizational inertia embedded in established structures, thereby posing an apparently irreconcilable challenge for the organization

Our study offers an original conceptualization and empirical approach that sheds light on the structural capacity of academic organizations to reconcile these tensions By examining multiple dimensions of academic structure over time, this study illustrates how academic structure enables the organization to respond to expectations for continuity and change

Intellectual Ancestry Studying the Formal Organization of Knowledge

Two sets of literature inform our conceptual and empirical approach The first is the new sociology of knowledge, which illuminates the relationship between postsecondary organizations and knowledge legitimation The second is research on academic change in higher education organizations, which provides the rationale for a line of inquiry that is both longitudinal and multidimensional

The New Sociology of Knowledge

Unlike the traditional sociology of knowledge, which examines the link between the development of ideas and the particular social locations or interests of individuals or groups (Mannheim, 1936, Weber, 1946), the new sociology of knowledge examines how kinds of social organization make whole orderings of knowledge possible (Swidler & Arditi, 1994) As a scholarly domain, this conceptualization asks how institutional structures and practices support and reconstitute categories of knowledge This line of inquiry addresses the role of institutional settings in shaping the content and form of ideas, not only those structures of knowledge developed by specialists but also the structures of knowledge or consciousness that shape the thinking of laypersons Sociologists refer to this focus as a "middle" level of analysis, in between analyses of large-scale macro forces such as the economy and individual-level interests This middle level, what Smelser (1997) calls "meso-sociology," warrants examination in its own right for its function as a powerful shaper of cognitive categories and social boundaries with consequences for both micro and macro levels

From this perspective, academic organizations are a primary site for the creation and evolution of knowledge categories Some theorists claim that these functions are most apparent in educational organizations (Lodahl & Gordon, 1972, Meyer, 1977), especially at the postsecondary level, given that colleges and universities define categories of expertise and certify individuals for participation in the labor market Yet, the creation and evolution of knowledge classifications are evident in other societal domains For example, in his studies of high culture, DiMaggio (1987) has argued that artistic classification systems are mediated by the organizational settings in which art is produced and genres are enacted. These processes have organizational as well as cognitive significance Extending DiMaggio's insights to academic organizations, the ritualization of knowledge categories occurs through the creation and maintenance of departments and degree programs In these settings, the knowledge categories and their labels contribute to what counts as knowledge They not only provide a location where participants generate local knowledge of departmental procedures and program completion expectations, but they also designate the knowledge most worth knowing within the field The latter is achieved by requiring proficiency of students in certain subjects and by hiring faculty with particular research and teaching interests So, while these institutional settings structure the educational milieu for learning, they also shape the landscape of "what is thinkable" (Swidler & Arditi, 1994, pp 314–315)

It is worth noting that the formal organization of academic knowledge in the United States occurs at several educational levels (elementary, secondary, and postsecondary), although these levels are not structurally aligned For example, social studies in high school has no corresponding category in college Knowledge categories become more prominent in the uppermost levels of education. At the lower levels of education (K-8), the organization of knowledge is less apparent, as grade levels dominate in structuring educational activity (e.g., fifth graders are educated separately from first graders). Moreover, some knowledge categories are considered co-curricular activities that tend to occur outside the regular classroom setting (e.g., physical education, art, music). Although academic subject matter and departmentalization do become visible at the secondary school level (Siskin, 1994), it is in postsecondary settings where academic categories move to the foreground in structuring educational activity, and grade levels move to the background. Academic departments (chemistry, history, economics, for example) and degree programs (degree subjects of the bachelor's, master's and doctorate) are the basic building blocks. Thus, the knowledge categories in higher education are organizing principles for students' learning, faculty work, and credentialing.

Knowledge categories also have symbolic value for the organization with respect to the environment—even if there is little or no productive activity in some of those areas. Consistent with institutional theory (Meyer & Rowan, 1977, 1978), the academic structure itself can have important consequences for the organization's legitimacy. For example, the maintenance of a full range of knowledge categories in the academic structure can enhance the legitimacy of a campus that strives to be seen as a comprehensive university. Similarly, the establishment of new programs may further the aspirations of those campuses seeking to emulate the academic offerings of higher status campuses (Clark, 1987).

Within the study of higher education, the centrality of these knowledge legitimation dynamics is a fundamental, yet to date peripheral, concern. The most visible contribution to advance this line of thinking is developed by Clark (1983). According to Clark, the conventional approach that dominates higher education research is to focus on people-processing functions: students undergo personality development, learn skills, develop human capital, or obtain degrees for status attainment and upward mobility (e.g., Astin, 1977; Feldman & Newcomb, 1976; Pascarella & Terenzini, 1991). In contrast, Clark proposes that knowledge-processing functions should be seen as the defining core of academic organizations. He argues that knowledge is "the prime material around which activity is organized. . . . Knowledge materials, and advanced ones at that, are at the core of any higher education system's purposes and essence. This holds true throughout history and across societies" (1983, p. 13). These knowledge-based activities have a wide array of intellectual, professional, economic, and social consequences. Following Meyer (1977), Clark suggests: "As educational institutions in general evolve, they develop categories of knowledge and thereby determine that certain types of knowledge exist and are authoritative They also define categories of persons privileged to possess the bodies of knowledge and to exercise the authority that comes from knowledge Educational structures, in effect, are a theory of knowledge, in that they help define what currently counts as knowledge" (1983, p 26)

Thus, it is essential to consider the emergence of new categories that constitute the formal organization of knowledge Certain historical periods have been characterized as times of dramatic knowledge expansion, where external political and economic demands for knowledge have penetrated the academy The decades following the end of World War II are often characterized as a period of knowledge explosion in the United States In addition to expanded research activities and a concomitant diversification of academic specialties, there was a proliferation of enrollments and career-oriented degree offerings (Geiger, 1993, Harcleroad & Ostar, 1987) At the same time, widespread interdisciplinary efforts, such as cultural studies, feminist studies, and science studies, have had far-reaching impact for what counts as knowledge in several domains and have even sought to unravel, if not dismantle, established borders that heretofore defined academic jurisdictions By the latter part of the twentieth century, scholars have proclaimed a new knowledge-based economy in which the production and consumption of knowledge have become the primary mechanism for economic development, technological innovation, occupational advancement, political action, and societal change (Drucker, 1994, Gibbons et al , 1994) This implies that the categories and content of the existing academic landscape are increasingly salient to those in the wider society

Taking such a knowledge-centered approach, we seek to advance this line of inquiry by examining continuity and change in the formal organization of knowledge in contemporary U S universities [1] Our central empirical aim is to examine how accepted knowledge categories and organizational structures co-evolve.

Research on Academic Change in Higher Education Organizations

The second body of literature that informs this study is research on organizational change, specifically in university and college settings Two lines of inquiry are foundational to our approach One encompasses competing organizational theories of inertia and adaptation The other provides empirical analyses of academic change Together this literature suggests the need for research on academic change that is longitudinal, multidimensional and considers variation across academic fields [2]

Theorists offer opposing understandings of change dynamics within universities and colleges. On the one hand, there are those theorists who emphasize organizational inertia. They suggest a tendency for large, complex organizations with contested goals and ambiguous technologies to resist fundamental change in their technical core (Hannan & Freeman, 1989) and an inclination to retain the organizational arrangements established at their founding (Stinchcombe, 1965). These theorists find ready examples in higher education, because colleges and universities show a tendency to retain the essential structural characteristics of their origins. Clark Kerr's (1987) well-known observation emphasizes the point.

> About 85 institutions in the Western World established by 1520 still exist in recognizable forms, with similar functions and with unbroken histories, including the Catholic church, the Parliaments of the Isle of Man, of Iceland, and of Great Britain, several Swiss cantons, the Bank of Siena and 70 universities. Kings that rule, feudal lords with vassals, and guilds with monopolies are all gone. These 70 universities, however, are still in the same locations with some of the same buildings, with professors and students doing much the same things, and with governance carried on in much the same ways. (p. 184)

In both rhetorical discourse and scholarly research, the structure of academic organizations has been much maligned for its inertia, failing to respond effectively to changes in student demographics, labor market requirements, and technological advancements. Academic organizations have been criticized for bloated bureaucracy, professional stagnation and ineffective management (Bergmann, 1991, Gumport & Pusser, 1995, Pew, 1990). Not all characterizations of inflexibility in academic structures carry negative connotations, however. Enduring organizational features, such as classical curricula, faculty tenure, and the importance of symbols, rituals, and traditions, may be seen as embodying cherished academic ideals. Thus, while observers may lament the inherent inertia of enduring structures, others may view organizational inertia as an essential source of cultural stability, continuity in professional identities and knowledge classifications.

In contrast to organizational theories of inertia, adaptation theorists suggest that organizations manipulate their structures and processes in the face of strategic imperatives (Miles & Cameron, 1982), such as those generated by shifts in the availability of key resources (Pfeffer & Salancik, 1978). In times of changing environmental conditions, adaptation theorists are among those who advocate restructuring and applaud the flexibility of academic organizations. Structural changes, such as reengineering, networking, and outsourcing, have been offered as adaptive responses to environmental demands (Gumport & Pusser, 1997) Amidst the vocal calls that higher education must change in order to survive, several scholars have argued that the structural complexity of academic organizations and systems has enabled them to adapt responsively through the addition and subtraction of subjects that reflect shifting intellectual pursuits (Clark, 1983, Kerr, 1987)

Although the opposing assessments of inertia and adaptation offer alternative frameworks, a common denominator between the two is the need for evidence on the extent to which there is continuity and change in the structure of academic organizations These theories affirm the centrality of structure and the potential to modify structure to enact the many institutional functions expected of academic organizations With this in mind, we can examine how higher education organizations structurally respond to the paradoxical imperatives faced by the U S higher education system to adapt to the changing needs of society while remaining a stable social institution[3] In light of these theoretical arguments, there is much to learn from the empirical study of structural change in higher education organizations Below we review three studies (Blau, 1973, Hefferlin, 1969, Metzger, 1987) that are significant to our approach in that they supply models for identifying and measuring change in major dimensions of academic structure More generally, they also have value in their assertion that academic structure should be studied empirically in its local organizational manifestations

Blau (1973) has examined the elaboration of formal bureaucratic structures, specifically the relationship between organizational size and structural change Blau's findings confirm that, as in government agencies, increases in the size of academic organizations lead to increased differentiation, academic specialization, and bureaucratization His focus on the addition of academic departments suggests that this is a critical step in the institutionalization of new fields and disciplines Blau's study serves as a springboard for our own investigation, as we seek to improve upon two of its major limitations First, his study is cross-sectional and thus unable to capture innovation and institutionalization, which are longitudinal phenomena Second, his singular focus on departmental units, though a vital contribution, offers a limited conception of how knowledge is organized within colleges and universities We propose that programmatic and curricular offerings are also important structural manifestations of academic innovation

In a similar spirit, Hefferlin's (1969) study of change identifies the curriculum as a primary structure around which legitimate knowledge is formally organized Like Blau, Hefferlin was interested in the process of knowledge change in the form of expansion, differentiation, and specialization However, Hefferlin focuses on course offerings and examines those fields that are eliminated from the knowledge structure, either through mergers with other subjects or wholesale removal from the academic program Among Hefferlin's key findings is that curricular reform is most likely to occur under conditions of organizational instability and vulnerability This argument is of particular interest because it stands in some contrast to Blau, who suggests that organizational "innovation"—or the creation of new departments—occurs in periods of relative stability Of course, the authors' different conceptualizations of organizational change help explain this divergence Blau conceptualizes change in terms of organizational innovation, whereas Hefferlin's argument presents change in the context of academic reform Such divergent explanations of change in the organization of knowledge suggest the need for a multidimensional conceptualization of academic structure That is, we think changes in the formal structure of departments must be examined separately from changes in academic program offerings, for those elements may likely be subject to different organizational and societal forces

Finally, Metzger's (1987) historical analysis of changes in the professoriate affirms that the study of academic change should be both longitudinal and multidimensional Metzger analyzes the proliferation of academic units due to knowledge growth accompanying the expansion and specialization of the professoriate, and he emphasizes the differentiation and specialization of academic knowledge as it is formally organized in the disciplinary affiliations of university faculty His historical approach illustrates the value of studying knowledge change over an extended period of time[4] He also offers a more refined explanation of how knowledge specialization occurs For example, he distinguishes between (1) *subject parturition*, in which subspecialties are spawned from more inclusive subjects; (2) *program affiliation*, in which new academic programs are created to accommodate training in the "learned" professions (law, medicine, divinity), and (3) *subject dignification*, in which previously marginalized subjects or new subjects gain currency in traditional academic settings Although Metzger does not consistently distinguish between the basic structural forms of knowledge and seems to imply that the same forces drive changes in degree programs and departments, his distinction among types of specialization suggests that it is worthwhile to examine the life course of accepted knowledge categories within the academic landscape

Implicit in these three pioneering works is the foundational notion that the formal organizational structures of departments and degree programs are defining features of academic organizations Although they identify a number of potential lines of empirical study, none of these researchers problematizes whether the dimensions are linked to one another, whether modifications in structure are critical to the legitimacy of the academic organization, or how changes in the academic structure affect a larger system of knowledge legitimation

Mapping Academic Structure

Having reviewed the relevant literature, we consider two questions How does the formal organization of knowledge change or remain the same over time? Are there different patterns across knowledge areas?

Two Related Dimensions Bureaucratic and Programmatic

To answer these questions, we develop the concept of academic structure as a representation of the formal organization of knowledge in colleges and universities. If the delivery and production of knowledge through teaching and research are core educational functions of colleges and universities, then we can identify two related but distinct elements that structure these core functions (1) *bureaucratic* (e g , schools, divisions, and departments), and (2) *programmatic* (e g , degree programs offered) A great majority of organizational inputs and outputs are mediated through these two structural elements Both elements reflect the differentiation and stratification of knowledge, embody political contests over organizational resources and power, and help form the identity of participants as well as the organization as a whole

The first element of academic structure is bureaucratic In postsecondary organizations, the bureaucratic structure takes its shape in academic departments and other formal units that consume resources, manage personnel, and occupy physical space This conceptualization is consistent with a Weberian approach, highlighting the circumscribed domains of administrative responsibility, personnel, and procedures that structure organizational authority and work Bureaucratic units also include other hierarchical levels, such as divisions, schools, and colleges Departmental units are typically organized around an established field of study and are responsible for the administration of academic degree programs, the hiring and support of faculty, and the flow of resources—a large proportion of which are fixed in tenured positions Thus, the bureaucratic structure is characterized by both vertical and horizontal differentiation This results in nested levels of bureaucracy, the higher levels of which represent schemes for organizing related groups of knowledge activity and their administration

Almost all academic activity in a college or university is tied in some way to a formal bureaucratic unit All regular faculty appointments have departmental ties, and the administration of each student's degree program flows through the departmental bureaucracy Thus, the addition or elimination of a formal unit is a significant event For the most part, however, departments do not merely appear and disappear, rather, the organization of units evolves over time as departments change names, merge with other departments, or split into multiple units Such changes are related to the legitimation and de-legitimation of knowledge categories as well as to significant economic and political factors that are both internal and external to the organization (Gumport, 1993)

The second element of academic structure is programmatic As an empirical dimension for study, we focus on the array of degree program offerings Like the bureaucratic structure, academic programs are horizontally differentiated by subject However, vertical differentiation in this structural dimension takes a different form In the most common hierarchy, degrees are vertically differentiated by certification level—the associate's degree representing the fewest requirements for certification, followed by the bachelor's, master's and doctoral degrees Differential status of knowledge can be inferred from degree level, because the adoption of graduate degree programs in a particular field is often interpreted as a stronger commitment to that field by the organization

Like departments, the array of degree programs offered changes over time Programs are added and eliminated, albeit with fewer consequences for the allocation of resources or personnel than the addition or elimination of an entire department, division, or school Nonetheless, degree program offerings are important for several reasons They signify areas of faculty interest and expertise, locate students within the academic organization, and contribute to the external identity of the organization In fact, the highest degree level offered is a primary determinant in the Carnegie Classification of Institutions as well as a substantive factor in the choices of students and parents as they consider alternative educational programs Additionally, students carry their degrees with them into their work and social lives, which serves as an important mechanism for the diffusion and legitimation of knowledge classifications into other societal domains Thus, changes in both the bureaucratic structure and the programmatic structure represent important organizational dynamics as well as broader shifts in what counts as knowledge

Of course, these two dimensions of academic structure are closely related In practical terms, departments administer degrees Resources and personnel (faculty and administrative staff) are committed to the establishment and management of departments in order to offer a curriculum and degrees in a given knowledge area However, the experience of academic administrators and professionals tells us that the internal factors involved in adding new departments are much different than those involved in changing academic program offerings University-wide committees that are charged with planning, priority setting, budgeting, and promotion and tenure decisions tend to affect the establishment (or elimination) of departments more so than degree programs, which tend to require approval (and renewal) from curriculum committees often working through academic senates[5] Thus, when considering the structural location of changes in the organization of knowledge, the programmatic structure and the bureaucratic structure must be examined separately

Certainly an argument can be made that our focus on departments and degree programs is limiting because it does not provide a comprehensive view of academic change Many other organizational elements, such as individual course offerings, independent research units, continuing education, and professional development programs are essential to the academic mission of institutions and represent additional structural arrangements through which knowledge change processes occur Despite the obvious importance of these elements, we think that departments and programs are two primary dimensions that are the most highly visible in structuring educational activity, identities of students and faculty, and the external identity of the campus Together, bureaucratic structure and programmatic structure enable academic organizations to fulfill their multiple functions as settings for educational practices of teaching and learning, for organizational practices to coordinate and manage academic work, for elaborating careers and professional identities, and, in turn, for supporting and reconstituting knowledge categories

The Case Study Site San José State University

We collected longitudinal data from one site on these two dimensions of academic structure—the bureaucratic and programmatic structures—and we closely examined the nature of change over time in each The site is San José State University(SJSU) The oldest public institution of higher education in California, San José State was founded in San Francisco in 1857 and named the California State Normal School in 1862 Originally a teacher training school, the institution moved to San José in 1871 and sustained its primary focus on teacher education throughout much of the early 20th Century By 1935 the name of the college had changed from San José State Teacher's College to San José State College, signifying the beginning of an era in which the academic offerings expanded beyond teacher education to general and occupational degrees In 1949, just before the start date of our data collection efforts, the college offered its first Masters of Arts degrees The Master of Science degree was added in 1955 Of major significance for this study was San José State College's addition to the California State College system (now called the California State University system) in 1961 Between its admission in the CSU system in 1961 and the year the institution achieved "university" status in the system, 1972, a reorganization of academic departments occurred to accommodate the expanded mission

While the early 1970s saw the end of a period of mission clarification and reorganization, major shifts in the social, cultural, and economic environment were only beginning in the region SJSU served The Santa Clara Valley was in the midst of a dramatic transition from a thriving agricultural community to the center of the emerging high technology industry In 1977 Apple Computer officially took off and began to revolutionize the region and the personal computer industry, and the region was firmly establishing itself as the center of the booming biotechnology field The demographics of San José changed as well, as Latino and Asian populations grew appreciably As a comprehensive state university whose mission is to serve the local needs of the labor market, we would expect such changes to be reflected in the academic structure Indeed, an inspection of the SJSU mission statements over two decades reflect attention to these changing local dynamics At the same time, however, the growth of global economies and the importance of attracting national and international student markets are also evident in SJSU's mission statements These regionally specific changes, coupled with aspirations to expand its geographic reach, provide an important backdrop to our study of academic change at this site

Before turning to the data, it is important to indicate where this case study site fits in the context of all master's colleges and universities (the 1994 Carnegie Classifications MCU I and II) As shown in Appendix A, the comparative data for the past twenty years suggest that SJSU operates on a larger scale than other MCUs It has a larger than average enrollment (almost four times larger) It spends slightly more on instruction per FTE student, and the proportion of expenditures spent on instruction is higher than the average for all MCUs The data for the past decade suggest that SJSU has been subject to similar economic pressures as the other MCUs Instructional expenditures per FTE student declined, and instruction's share of total expenditures declined Over the past decade, state appropriations per FTE student declined more so at SJSU than the average for MCUs While we are not suggesting that SJSU is representative of the universe of MCUs, such data suggest that

SJSU has experienced the contemporary economic constraints that are so common nationally (Harcleroad & Ostar, 1987) Thus, we think it is an appropriate site for an exploratory inquiry into patterns of continuity and change in academic structure

Data and Methods

In order to investigate the extent of continuity and change in academic structure we conducted both qualitative and quantitative analyses spanning a forty-five year period Data were drawn from several sources The primary data source was the SJSU course catalogues published between 1952 and 1997 We collected data from ten catalogues, representing nine evenly distributed five-year intervals The following academic years are represented in the sample 1952–1953, 1957–1958, 1962–1963, 1967–1968, 1972–1973, 1977–1978, 1982–1983, 1987–1988, 1992–1993, and 1997–1998

College course catalogues provide a comprehensive historical record of many aspects of academic organization They list all available course and degree offerings as well as detailed information on the organization of schools, departments, and programs These data allowed us to track changes in the formal bureaucratic organization, including what departments existed each year, and during each five-year interval whether or not departments were added, eliminated, merged, split, or renamed Catalogues also allowed us to track similar changes in degree programs offered The data for both the bureaucratic structure and programmatic structure were coded separately to produce a longitudinal history of academic change For the bureaucratic structure data, we recorded the exact name of each academic operational unit that appeared in the ten catalogues An academic operational unit is defined as any formal administrative unit that administers courses or degrees, has dedicated faculty lines, and occupies a physical office located on campus[6] For the programmatic data, we recorded the names and degree levels of every program offered during each academic year studied Over the 45-year period, SJSU offered academic programs at four major degree levels Bachelor of Arts, Bachelor of Science, Master of Arts, and Master of Science Therefore, the maximum number of degree programs offered in any given subject during each year was four[7]

A key objective of the analysis was to track change in the bureaucratic and programmatic dimensions of academic structure with respect to the evolution and legitimation of broader knowledge categories To that end, we classified the names of departments and degree programs using a taxonomy of seven knowledge areas Humanities, Social Sciences, Engineering/Computer Science, Life Science, Physical Science, Health Science, Professional and Applied Fields (See Appendix B for a discussion of the Knowledge Taxonomy)

Much of the quantitative data compares the net change in the number of departments or degree programs within the seven knowledge areas over time It is important to note that this method of comparing the number of departments or degree programs of a certain type obscures some interesting aspects of knowledge evolution as reflected in changing academic structures Therefore we also conducted a more refined analysis of structural change by tracking whether, from one period to the next, the appearance or disappearance of departmental units occurred as the result of the addition of a new field, a name change, the merger of two or more departments, the dissolution of a department into two or more new departments, or the elimination of a department A detailed history of each unit was recorded and analyzed over the 45-year period, noting changes in name, faculty, office location, and curricular offerings This qualitative analysis not only helped us gain conceptual clarity on the interdependence between academic structure and knowledge change, but also allowed us to gain a more refined sensibility of the nature and range of academic structural changes

Finally, we collected supplementary quantitative data on changes in faculty composition and degree production Archival records provided to us by SJSU enabled us to record data on full-time equivalent faculty (FTEF) for each department between 1977 and 1997 Changes in the allocation of full-time equivalent faculty to different departments served as a measure of SJSU's resource commitment to different knowledge areas Degree data from the Integrated Postsecondary Education Data System (IPEDS) were used to track changes in degree production from 1966 to 1997. Unfortunately, data on degree production and faculty were unavailable for the earliest years of our study, and departmental-level financial data were unavailable for the entire period under study.

Data Analysis and Interpretation

The case study data from 1952 to 1997 illustrate the nature of temporal changes in academic structure as well as the importance of separately examining data on the bureaucratic structure and the programmatic structure

Co-Evolution of Knowledge and Academic Structure

Before presenting the quantitative data, we offer qualitative examples from the course catalogues to suggest that changes in the organizational structure reflect different processes of knowledge legitimation In the SJSU data, we identified five processes by which knowledge categories and academic structures co-evolve These types are distinct, although not necessarily mutually exclusive

Knowledge *differentiation* is reflected in the process by which departments and degree programs are split into multiple, new entities representing more specialized fields of study For example, between 1957 and 1962, the Department of Engineering was split into five new departments (Electrical Engineering, Industrial Engineering, Civil Engineering, Mechanical Engineering, and Chemical Engineering) A more recent example of differentiation occurred in SJSU's Physical Education degree program offerings Between 1982 and 1992 the degree programs in Physical Education were differentiated into five programs (Athletic Training, Movement Science, Pedagogy, Adult Adapted/Corrective Therapy, Society Studies and Sports Management) These examples point to a proliferation of units that reflect an increasing specialization of knowledge and mirror emerging career specialties

Another type of change is knowledge *promotion*, which also occurs in both the bureaucratic and programmatic structures When a bureaucratic subunit labeled a "department" is changed to a "division," "school" or "college," or when a degree program formerly offered at only the undergraduate level is offered in subsequent years at the graduate level, the knowledge area is promoted For example, between 1992 and 1997 the Department of Nursing became the School of Nursing In degree program offerings, promotion is the most common type of expansion in the overall academic program structure Since SJSU began offering MA and MS degrees in the 1950s, the ensuing expansion of graduate education was accompanied by a corresponding growth in graduate degree programs offered Across many knowledge areas, this entailed a vertical promotion of subjects to master's offerings

A third type of knowledge change is knowledge *evolution*, which is reflected primarily in name changes This often signals a substantial change in the knowledge associated with a category or a change in professional or occupational legitimacy The transformation of the Librarianship Department to the Department of Library Sciences between 1982 and 1987, and then to Library Information Sciences by 1992 provides an example of this point Similarly, between 1977 and 1982, the Home Economics Department was changed to the Department of Nutrition and Food Science

Fourth, knowledge *consolidation* is evident primarily in departmental mergers, and is often accompanied by name changes Between 1977 and 1982, for example, six separate departments in the School of Business were consolidated into three Accounting, Management, Marketing, Office Administration, Manpower Administration, and Finance, Insurance and Real Estate became Accounting and Finance, Organization and Management, and Marketing and Quantitative Studies By 1997 these three units underwent further name changes when the latter department was renamed Marketing, Management Information Systems, and Decision Sciences The consolidation and name change mirrored changes in business school programs nationally

Another example of consolidation occurred in the Physical Education departments In 1977 there were three departments associated with physical education The Department of Physical Education for Men, the Department of Physical Education for Women, and the Department of Physical Activities By 1982 these three had merged into one, called the Department of Human Performance The elimination of the gender distinction in departmental nomenclature is also evident in the degree programs offered, a shift that is of no surprise given wider societal changes in gender awareness and political activity (e g , *Ms.* Magazine was founded in 1971, the *Rowe v Wade* ruling came in 1973, and in 1978 the National Organization for Women declared a state of emergency in an attempt to gather support for ratification of the Equal Rights Amendment)

A final example of consolidation is Environmental Studies, which merged into a single department with Geography in 1972 However, Environmental Studies at SJSU continued to search for an organizational home, intermittently breaking off as its own department Between 1977 and 1982 it split from Geography, merged again, then split again by 1992 This illustration serves as a reminder that the organizational life course of an interdisciplinary field is neither linear nor predictable

Finally, *stability* of knowledge categories is reflected in the persistence of departments or degree programs that do not evidence any of the above four types of change The departments of Music, English, Chemistry, Occupational Therapy, and Social Science are examples of departments that have persisted at SJSU without changes in name, departmental merger, dissolution, or promotion during the 45 years studied Of course both pedagogy and the content of the courses offered in these departments and programs have surely changed over time, but the stability of each category itself is noteworthy

These qualitative examples illustrate a range of possible organizational trajectories for different academic fields While some may reflect organizational dynamics that are idiosyncratic to San José State, other examples reflect larger national trends in knowledge evolution and societal expectations It is also important to note that changes in labels and structures serve to advance knowledge evolution as much as they reflect them[8] Specific to comprehensive state universities, Harcleroad and Ostar (1987) stress that the broad mission of these campuses reinforces the public's expectation that they will adapt to meeting changing economic and societal needs Although this mandate is clear, it is less clear how to manage academic structures for such flexibility On the one hand, it could entail name changes that correspond to a changing knowledge base, as in library and information sciences On the other hand, it could involve restructuring a group of established units to correspond to changing domains, as in business and physical education The latter involves not only resource reallocation (money and space) but also redefining faculty's organizational location, which is difficult given the fixed nature of tenured appointments In this sense, there are more obstacles to modifying the bureaucratic structure than there are for modifying the programmatic structure

Continuity and Change in Bureaucratic and Programmatic Structures

Turning to the quantitative data, the data on bureaucratic structure suggest an overall pattern of early growth followed by relative stability In the period between 1952 and 1997, the total number of departments rose from 25 to 61 This follows expected patterns of bureaucratic expansion and differentiation explained by Blau (1973) A closer look at the 45-year time period shows that expansion in bureaucratic structure slows and then subsides in the period after 1967, with a net growth of only 7 departments between 1967 and 1997 (54 to 61) As noted earlier, SJSU went through a period of mission clarification and reorganization related to its addition in 1961 to the CSU system and its promotion in 1972 to university status This may help explain the different pattern—upheaval and then stability—for each of these two periods

A more refined picture of the departmental structure can be found by looking at change in the number of departments representing different knowledge areas (See Figure 1) Over the entire 45-year period there is very little net change in the number of departments in the life sciences, physical sciences, and health sciences It is important to note, however, that these three areas represent a very small proportion of the total number of departments Departments in engineering and computer science, the social sciences and the humanities more closely reflect the overall pattern of early growth and then stabilization in the period after 1967 Between 1972 and 1997 there was a net growth of two departments in engineering and computer science (8 to 10), and a net decline of one department in the humanities (13 to 12) and social sciences (12 to 11) Departments in professional and applied fields, primarily business and education, represent the largest subset of the bureaucratic structure After a period of steady proliferation in professional education departments at SJSU between 1952 and 1977 (8 to 23), a reorganization within the business school caused a sharp decline by 1982 (23 to 18) followed by stability in recent years

Although the aggregated data presented here indicate similar patterns of stability across knowledge areas, the qualitative examples offered earlier do suggest more volatility in departments (name changes, mergers, and dissolutions) associated with the professions than in the arts and sciences The relative stability of the departments in the arts and sciences could be accounted for by the nature of the knowledge itself It is possible that the departments of English, social science, and music were stable because their categories were broad enough to encompass ensuing knowledge and content changes Conversely, the changes in departments within the applied and professional fields may reflect their predisposition to adapt more readily to changes in the external environment, such as advancements in information technology and changes in career opportunities

Moving from the data on bureaucratic structure to programmatic structure, the longitudinal data on degree programs offered illustrates a trend of steady expansion, consistent with the predictions of Metzger (1987) regarding disciplinary specialization Unlike the stabilizing trend in the departmental data in the latter period, growth in degree programs offered continued after 1972 This disparity suggests that changes in the programmatic structure and bureaucratic structure show different patterns and may respond to different stimuli

A more refined perspective can be gained by looking at changes in the degree programs offered in different knowledge areas (See Figure 2) Especially in the period after 1982, a general trend of stability is evident in the life sciences, physical sciences, and health sciences Alternatively, degree programs offered in the humanities, professional and applied fields, and to a lesser extent social sciences and engineering, demonstrate patterns of steady expansion throughout the period under study

One noteworthy pattern in the degree program data is the proliferation of humanities degree program offerings We have speculated that growth in professional and applied fields dominates expansion trends in the bureaucratic and programmatic data because they are more responsive to external influences, either directly from labor market changes or indirectly as mediated by preferences of career-oriented students However, at SJSU the most dramatic increases in degree program offerings are in the humanities This could be seen as evidence that counters the widespread concern that the humanities are stagnating (Engell & Dangerfield, 1998)

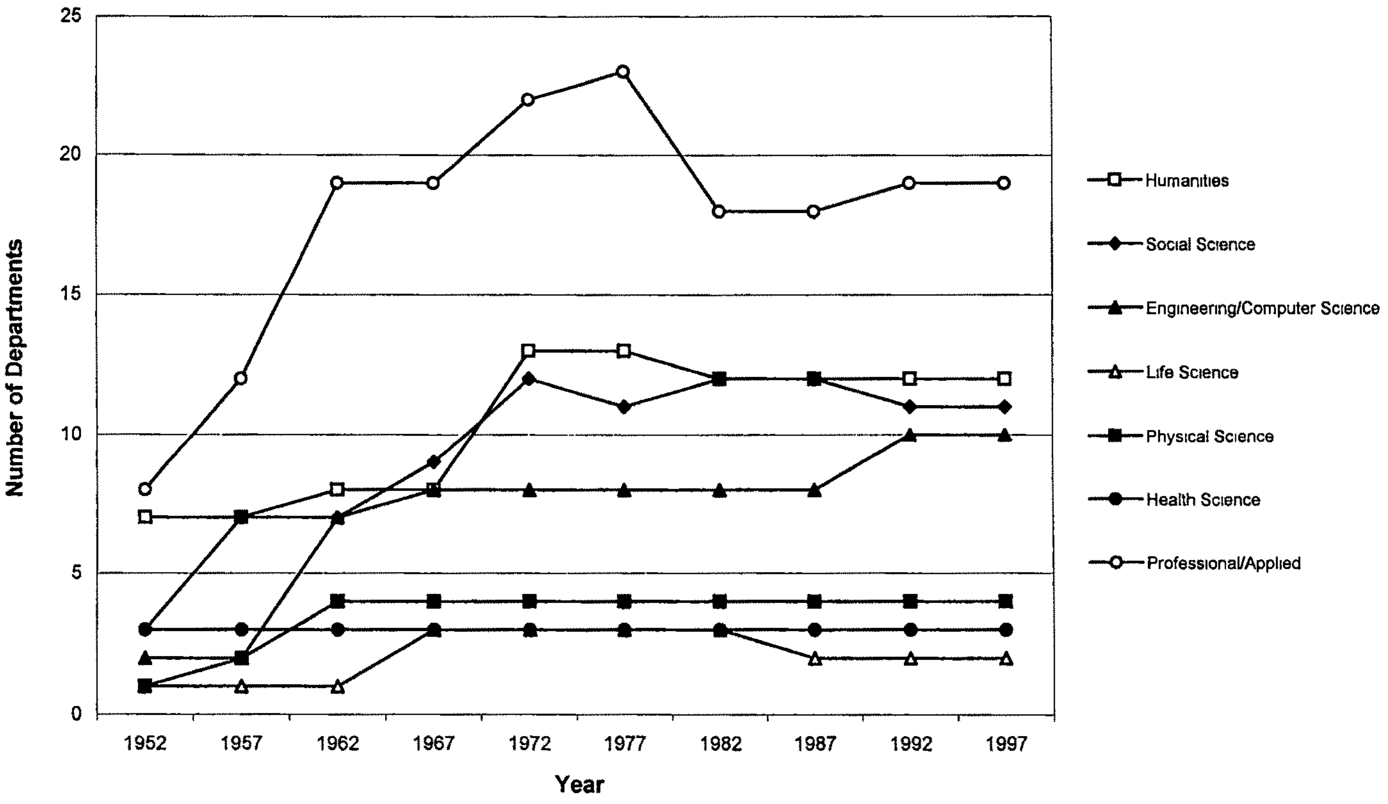

FIG 1 SJSU Departments by Knowledge Area 1952–1997

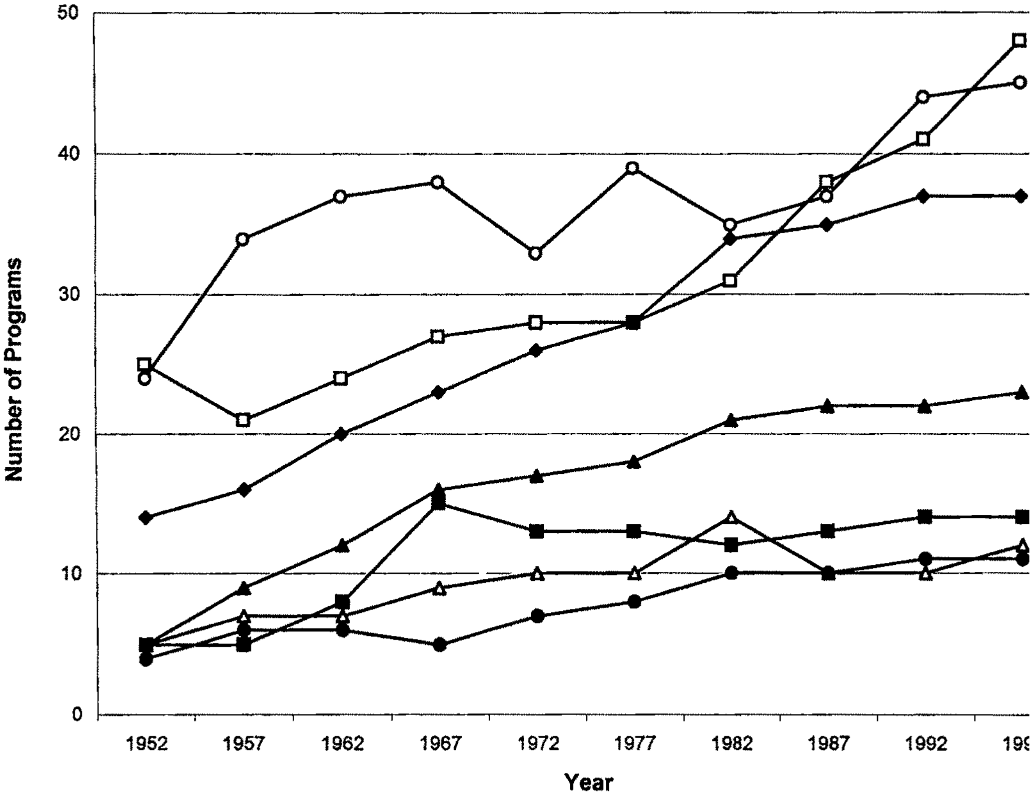

FIG 2 SJSU Degree Programs Offered by Knowledge Area 1952–1997

There are several possible interpretations of this pattern First, from a market perspective, anticipated student demand plays an important role in decisions about the establishment and disestablishment of academic programs For example, increases in humanities degree programs may be the result of increased student demand for particular humanities degrees Although not a direct proxy for demand, degree production data does serve as a measure of productive activity within those units Degrees awarded in the humanities have generally declined at SJSU over the 45-year period Between 1972 and 1987 the number of humanities degrees awarded declined by over 50%, from 993 to 415 Thus, in spite of such declines in degree production, the number of humanities degree programs continued to increase An alternative market explanation might hold that adding new programs may be a strategic initiative by the university to cultivate new student demand. Computing the ratio of degrees awarded to degree programs offered more explicitly illustrates that if there was strategic intent, it did not succeed Between 1972 and 1987 the number of degrees awarded per degree program offered in the humanities decreased by almost 70%, falling from 35 5 to 10 9 This evidence suggests that a simple market explanation is not sufficient for understanding the complex dynamics of academic program change

A second possible explanation is that the expansion of degree program offerings in the humanities may reflect an increase in more specialized graduate education When we disaggregate the data on degree programs offered by level, we see that an increase in the number of graduate programs far outpaced growth in undergraduate degree program offerings At SJSU, undergraduate degree programs were added at a rate of 0 56 per year, whereas graduate degrees were added at a rate of 2 38 degree programs per year It does not appear, however, that the growth rate of graduate degree program offerings in the humanities is any greater than that in the professional or applied fields

Third, the increase in degree program offerings in the humanities may be the result of changing faculty interests and activities This interpretation could have several dimensions, all tied to recent national trends in knowledge For example, faculty participation in interdisciplinary programs within the humanities, such as various ethnic and regional studies programs, has become increasingly legitimate Concurrently, as a result of protracted debate over the canon, the humanities have become increasingly fragmented Both trends reflect a decline in consensus over what counts as knowledge As such, these trends could yield a corresponding proliferation of degree programs generated by faculty who wanted to move out of established programs

Although each of these interpretations has merit and deserves examination in its own right, we offer a fourth explanation derived from institutional theory that emphasizes the symbolic functions of academic structure We propose that modifications in the degree programs offered signal—to internal and external constituents—changes in the institution's commitment to different knowledge areas In the case of the humanities, the increase in degree programs despite declines in degree production reflects SJSU's attention to liberal arts, whether they be for general education in critical thinking, moral development or personal enhancement This concentration of activity is especially noteworthy given the unprecedented production of career-oriented degrees during this period

Evidence that the expansion of degree program offerings in the humanities at SJSU has more symbolic than practical function significance can be found by more closely analyzing data on degree production and full-time equivalent faculty (FTEF) allocation by knowledge area Of particular interest is a comparison of the humanities and professional/applied fields at the graduate level, which represent the most substantial proportion of academic activities at both SJSU and nationwide at other comprehensive universities (Harcleroad & Ostar, 1987) We have already noted that in both the humanities and professional fields, degree programs were added steadily and that expansion occurred primarily at the graduate degree level However, while professional degree production at the graduate level increased (from 415 in 1977 to 496 in 1997, an increase of 20%), graduate degree production in the humanities declined (from 125 in 1977 to 85 in 1997, a decline of 30%) Thus graduate degree programs in the humanities were added while graduate degree production in those areas decreased

Additionally, by looking at change in FTEF allocations per degree at SJSU between 1977 to 1997, we see that the number of faculty allocated to humanities degree programs declined almost 50% between 1977 and 1997, whereas FTEF per degree program declined by only 14% in professional and applied fields Thus, although SJSU continued to add degree programs in the humanities as quickly as it did in professional and applied fields, both the number of degrees it awarded in these areas and the number of faculty allocated to teach in those programs declined This suggests, therefore, that the structural expansion of humanities degrees does not necessarily correspond to student demand or to fluctuations in the allocation of resources Rather, it represents a continued or expanded symbolic commitment to those degree programs in the knowledge areas traditionally associated with liberal education

Relationship Between Bureaucratic and Programmatic Structures

The relationship between degree program offerings and departments is also of interest We attempted to capture this relationship more precisely by computing the ratio of degree programs offered to the number of departments across the seven knowledge areas In a given year, this ratio shows the average number of degree programs offered in a particular knowledge area relative to the number of departments in that same area The change over time in this ratio illustrates whether or not the evolution of knowledge categories, as reflected in the programmatic and bureaucratic structures, follow similar patterns. Especially in the period after 1972, the separate data for degree programs and departments show steady growth in degree program offerings in contrast to relative stability in the number of departments The ratio of degrees to departments captures this set of trends (see Table 1 below)

In the period prior to 1972, the proportion of degree programs to departments shows a decline for most knowledge areas For example, between 1952 and 1972 the value for the Humanities declined from 3 6 to 2 2 and Social Science from 4 7 to 2 Between 1957 and 1972, the value for the Life Sciences declined appreciably from 7 to 3 3 and for Engineering from 4 5 to 2 1 The declines are accounted for by a pronounced increase in the number of new departments created in this era We have already noted that this historical period for SJSU represents the early stages of organizational development capped by a period of reorganization SJSU expanded its mission beyond its primary activity of teacher education into a comprehensive state university The resultant expansion in enrollments was accompanied by an increase in resources and organi-

TABLE 1

SJSU Degree Programs Offered per Department by Knowledge Area 1952–1997

Knowledge Area	1952	1957	1962	1967	1972	1977	1982	1987	1992	1997
Humanities	3 57	3 00	3 00	3 38	2 15	2 15	2 58	3 17	3 42	4 00
Social Science	4 67	2 29	2 86	2 56	2 17	2 55	2 83	2 92	3 36	3 36
Engineering/ Computer Science	2 50	4 50	1 71	2 00	2 13	2 25	2 63	2 75	2 20	2 30
Life Science	5 00	7 00	7 00	3 00	3 33	3 33	4 67	5 00	5 00	6 00
Physical Science	5 00	2 50	2 00	3 75	3 25	3 25	3 00	3 25	3 50	3 50
Health Science	1 33	2 00	2 00	1 67	2 33	2 67	3 33	3 33	3 67	3 67
Professional/ Applied Fields	3 00	2 83	1 95	2 00	1 50	1 70	1 94	2 06	2 32	2 37

zational capacity that entailed a dramatic proliferation of the bureaucratic structure In this era, degree program offerings also grew steadily, and our data show a notable change in the academic program However, the major trend in this period is dominated by expansion of the bureaucratic structure

In contrast, the period after 1972 shows a distinct pattern in which the ratio of degree programs offered to the number of departments increased for most knowledge areas The most pronounced are the humanities, which increased from 2 15 to 4, and the life sciences, which increased from 3 3 to 6[9] These increases may result from faculty specialization, which is likely to manifest itself first in the degree program offerings and later in the bureaucratic structure The elaboration of bureaucratic structure requires more resources (e g , money and space), whereas degree programs can be added at less cost, can satisfy faculty interests, and can be changed more quickly to accommodate shifts in state needs and industry trends

This discontinuity between the nature and rates of change in bureaucratic and programmatic structure may indicate a structural capacity of academic organizations to mediate competing imperatives for stability and change That is, while the bureaucratic structure is relatively fixed in the resource flows, tenured faculty positions, and vested interests for turf protection, the programmatic structure is more open to adaptation Thus, the multidimensionality of academic structure enables universities to reconcile the divergent forces of inertia and adaptation.

Conclusion and Implications

The patterns evident in the illustrative data from this case study support the continued use of a multidimensional conception of academic structure as well as the use of multiple methods for investigating the longitudinal nature of knowledge change Both the qualitative and quantitative phases of our study suggest ways to examine continuity and change in the formal organizational structure Given that there are different patterns of change between bureaucratic structure and programmatic structure, we conclude that the multidimensional nature of academic structure provides an essential scaffolding for universities to function as complex social institutions as settings for educational activities of teaching and learning, for organizational practices to coordinate and manage academic work, for elaborating careers and professional identities, and for legitimating enduring as well as emerging knowledge categories

In conclusion, we offer implications for further research, for campus leaders, and for theoretical development First, there are several implications for empirical inquiry on the formal organization of knowledge We derive these out of the limitations we encountered in gathering and analyzing data for this case study Although the use of a single case obviously limits generalizability and does not produce definitive empirical claims, the case study data illustrate one approach to operationalizing structural features of the academic landscape Clearly, if one wants to make generalizable claims or to study causes, the sample of campuses must be expanded Yet limitations in the availability and comparability of data remain a significant obstacle to constructing a large data set National data collected at the institution level are not disaggregated to the department level Additionally, any study of knowledge change must, by its very nature, consider a long period of time Unfortunately, data collection practices of institutional research offices tend to change over time, and many institutions keep surprisingly poor historical records For this study we manually collected data on changes in the departmental structure and academic programs for a 45-year period by analyzing campus archives and college catalogs for each of the years in the study Certainly, the construction of a large longitudinal dataset of bureaucratic and programmatic change across many types of campuses would open limitless possibilities for studying the co-evolution of knowledge and academic structure For example, researchers might investigate how change in academic structure varies between organizational types (such as comparing community colleges to research universities), which has implications for understanding how knowledge structures become stratified within educational systems

In exploring options for further research, several design issues must be carefully considered For this quantitative data analysis, we calculated changes in the number of departments or degrees representing each knowledge category as *net* increases or declines, which obscures many intricacies of change that occurred within a knowledge area for each period In a given year, the net change in departments representing the humanities could have been *plus one*, even if three new departments were added, two removed, and several renamed Thus a net change does not reflect the volatility that may be occurring Our use of qualitative examples served in part to compensate for this Yet, with a larger dataset, future research could use more advanced quantitative methods to analyze longitudinal change within academic organizations For example, by coding each departmental or programmatic name change, merger, or split as a discrete entry or exit event, event history analysis can be employed to compare the rate of change in departments and degree programs across different knowledge areas, and models can be developed to predict differential causes—both internal and external to the organization—of structural volatility or stability within knowledge areas.

A second set of implications addresses the potential interests of campus leaders in coordinating the various dimensions of academic structure. In universities structural modifications tend to be made incrementally, within shared governance practices as well as through phases of academic planning initiatives. However, the results for the organization and its participants are cumulative. From the perspective of campus leaders, a number of concerns may arise. Is there a widening gulf between enduring departmental structures and vital educational processes (teaching and learning)? Is program expansion excessive? In our opinion administrators and faculty need not malign either the enduring nature of bureaucratic structures or the proliferation of degree programs, for they each serve a vital function. The former enables the organization to sustain legitimacy for its enduring commitments, while the latter simultaneously permits much-needed flexibility to launch experimental or short-term programs that can be responsive to shifting faculty interests, student demand, or labor market needs.

Finally, this study suggests important implications for advancing theoretical work on knowledge legitimation. Since institutional settings shape knowledge classifications, it is worthwhile to develop a more refined conceptualization of the interplay between context and knowledge categories. Educational settings are ideal sites for examining the co-evolution of knowledge with academic structure. The work of new sociologists of knowledge suggests that the analysis of the institutional settings may yield new insights about the interdependence between context and ideas, specifically how structure and content reinforce social hierarchies as well as the authoritativeness of knowledge (Swidler & Arditi, 1994). In addition to these lines of inquiry, we still do not know which organizational structures best support the advancement of knowledge and whether there are salient differences in these dynamics across academic fields.

Against this backdrop, it is essential to consider how the dynamics of knowledge legitimation implicate segments of the academic structure selectively. External stakeholders look to higher education for certain kinds of knowledge (e.g., literary theory, historiography), while they look to other social institutions—such as the media, art associations, or religious organizations—for other kinds of knowledge (e.g., popular culture, high culture, faith-based knowledge). In some domains, developments in knowledge tend to be produced by both higher education and another social institution. For example, in biotechnology or computer science, research universities and industry are both involved, either as competitors or as collaborators While the issue writ large may be the extent to which higher education can protect its monopoly as a knowledge legitimator, these domain differences also suggest the potential for increased disparity across knowledge areas in how academic units are valued by their external stakeholders While such a differential valuing could be readily accommodated by modifying the programmatic structure, a more fundamental shift in societal expectations would entail mission redefinition and thus more dramatic alterations of the bureaucratic structure as well

With this in mind, the changing knowledge functions of universities and colleges are ripe for further theorizing Although higher education is known well for its knowledge transmission (teaching) and knowledge production (research) functions, it is the overall knowledge legitimation function that we seek to emphasize in this article That is, apart from the all-important content of educational objectives, universities and colleges play a major intellectual role for society in the maintenance of their academic structures They determine which knowledge categories obtain and sustain resources, they determine which content within knowledge categories is deemed most worthy of knowing and pursuing, and they in essence provide a knowledge vocabulary for the wider society The fascinating reality is that all of this occurs in an *ad hoc* manner, on several organizational levels, through incremental decisions by educators and campus leaders So, while there are plenty of informal changes within knowledge areas that are not (yet) visible in structural changes, the visible structural forms do have cumulative consequences for the organization and for society

APPENDIX A

San José State University (SJSU) Compared to Master's Colleges and Universities (MCU)

	FTE Students		Instructional Expenditures per FTE Student		Instruction's Share of E & G Expenditures[a]		State Appropriations per FTE Student	
Year	SJSU	MCU	SJSU	MCU	SJSJ	MCU	SJSU	MCU
1977	20,219	5,387	$4,957	$4,324	56%	50%	$7,238	$5,659
1982	18,123	5,551	$5,569	$4,193	53%	49%	$6,851	$5,940
1987	19,082	5,635	$6,029	$4,535	56%	49%	$8,404	$6,541
1992	22,510	6,523	$5,375	$4,221	61%	48%	$7,058	$6,314
1997	19,719	6,433	$5,135	$4,362	48%	38%	$5,708	$6,022

SOURCE National Center for Education Statistics IPEDS data provided through NSF WebCASPAR database system Financial data reported in constant 1997 dollars Data for MCU's reported as mean values

[a] Adjusted educational & general expenditures (minus Pell grants & nonmandatory transfers)

APPENDIX B

Knowledge Taxonomy

The names of departmental units and degree programs were classified into seven knowledge areas Humanities, Social Sciences, Physical Science, Life Science, Health Science and Professions, Engineering and Computer Science, and Professional and Applied This offered a consistent and standardized method of coding the data and enabled us to make substantive comparisons of knowledge change over time

This taxonomy was derived from the NCES Classification of Instructional Programs (CIP)(Morgan, Hunt, & Carpenter, 1990), which lists over 900 subject-matter names and classifies them into 52 broad categories We collapsed these 52 categories into 7 in order to make the analysis and presentation feasible In order to translate these CIP categories into our seven knowledge areas, we utilized the disciplinary classification scheme used in the Integrated Postsecondary Education Data System's earned degrees database Also based on the CIP, this database further collapses the broad categories into 20 major disciplines From this list of 20 disciplines, we then eliminated as major categories those disciplines that were nowhere represented in the departments or programs in our site (such as Law and Architecture), and we further consolidated several categories where meaningful groupings were apparent For example, whereas in the IPEDS database Religion/Theology and Arts and Music are treated as separate major categories, we consolidated them into the Humanities knowledge area This enabled us to construct a database that matched all 900 subject-matter names in the CIP to 7 broad knowledge areas Below is the list of 7 knowledge areas and their associated CIP categories

Humanities

area, ethnic, and cultural studies
English language and literature/letters
foreign languages and literatures
liberal/general studies
mathematics
multi/interdisciplinary studies
philosophy and religion
theological studies and religious vocations
visual and performing arts

Social Sciences

communications
communications technologies
library and archival sciences
psychology
social sciences and history

Engineering and Computer Science

computer and information sciences
engineering
engineering-related technologies
military technologies

Life Sciences

agricultural business and production
agricultural sciences
biological sciences/life sciences
conservation/renewable natural resources

Physical Sciences

physical sciences
science technologies

Health Sciences

health professions and related sciences

Professional and Applied Fields

architecture and related programs
business
business management, administrative services
construction trades
parks, recreation, leisure, fitness studies
personal and miscellaneous services
precision production trades
protective services

APPENDIX B (*Continued*)

- education
- home economics
- law and legal studies
- marketing operations/marketing and dist
- mechanics and repairers
- public administration and services
- transportation and materials moving workers
- vocational home economics
- vocational/trade

To code each data point, we searched the database for the department or program name, and assigned it to the corresponding knowledge area If a department or degree name did not appear in the database, we classified it using the college or school in which it resided within our site For example, if a multidisciplinary program was not listed in the database, but it resided in the College of Social Sciences at our case site, we classified it in the Social Sciences knowledge area

It is important to note than any static knowledge classification scheme warrants scrutiny The CIP itself has experienced significant changes over the time period we studied The CIP is the predecessor of the "Taxonomy of Instructional Programs in Higher Education," created in 1968 as part of a comprehensive data collection effort by the federal government known as the Higher Education General Information Survey (HEGIS) The original CIP replaced the HEGIS taxonomy in 1979, and went through significant revisions in 1985 and 1990 Work on the most recent revision ensued in the year 2000

Our taxonomy of 7 knowledge areas suggests enduring and broadly accepted categories over a long historical period, making them appropriate for this type of illustrative analysis Yet there is a significant but unavoidable contradiction between our conception of knowledge change (defined as changes in the accepted categories of knowledge embodied in academic structures) and a methodology that employs static albeit broad knowledge groupings Future conceptual and methodological work is required to reconcile this disconnect between theory and methodology

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Notes

[1] Although the term "knowledge" may connote for many participants within universities the structures of academic science or knowledge production by research units, our focus on knowledge categories is meant to denote the traditional academic building blocks that serve as the primary academic home for the administration of curriculum, instruction, faculty hiring, and disciplinary research Of course, given the diversity of within U S higher education, the range of academic units that are considered "traditional" may vary by institutional type, thereby suggesting the need for further empirical research

[2] For a comprehensive review of empirical and theoretical work on the differences between academic disciplines, see Braxton and Hargens (1996)

[3] The notion that universities have the structural capacity to negotiate competing imperatives for change and stability is pervasive throughout this article This idea resonates with the structural-functionalist approach of Parsons and Platt (1973) in *The American University*

[4] Few treatments of academic change have taken such a long view of academic change processes For a notable exception, see Frank, Wong, Meyer, & Ramirez's (2000) cross-national comparative study of changes in the history curriculum of universities in 89 countries between 1895 and 1994

[5] Departments and degree programs go through different external review mechanisms that may include several levels of hierarchy, particularly for public universities and colleges, extending from district-level and system-level approval to state-level coordinating bodies Although such formal processes may include explicit criteria that serve as the basis for decision making, it is common knowledge that personal preferences and personnel issues may also come into play in these processes

[6] The use of dedicated faculty lines helped us to define "programs" as either operational units or curricular elements Interdisciplinary programs often resembled departments as they were represented in the college catalogues, but generally all faculty lines belonged to other operational units and no dedicated office location existed If a "program" did have dedicated faculty lines and office space, it was coded as an operational unit

[7] SJSU also offered certification programs in certain occupational areas which were not included in this study

[8] This point highlights the challenges of disentangling cause and effect in the relationship between university structures and the wider society (Gumport, 2000) In this article, we invoke the notion of co-evolution to suggest that changes in legitimate knowledge at the societal level influence structural change in universities, while changes in the organization of departments and programs affect what counts as legitimate knowledge Because our primary purpose is to develop a research agenda at the intersection of organizational theory and the sociology of knowledge, our exploratory research design and methodology do not aim to determine causal direction

[9] The ratio was computed as follows humanities went from 28 programs and 13 departments to 48 programs and 12 departments, life sciences went from 10 programs and 3 departments to 12 programs and 2 departments

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Review Essay

Academics on Athletics

JOHN R. THELIN

Onward to Victory: The Crises that Shaped College Sports,
by Murray Sperber. New York: Henry Holt and Company,
1998. 578 pp. $32.50.

Unpaid Professionals: Commercialism and Conflict in Big-Time
College Sports, by Andrew Zimbalist. Princeton, NJ: Princeton
University Press, 1999. 252 pp. $24.95.

Unsportsmanlike Conduct: Exploiting College Athletes, by
Walter Byers with Charles Hammer, Ann Arbor: University of
Michigan Press, 1995. 413 pp. $34.50 ($21.95).

A hearty perennial of undergraduate education is the admonition that "The Truth shall make you free." I have seen this chiseled in granite over the entrance of a library. I heard it during a dean's welcome at freshman orientation, then again at discussions in a humanities course. Just to make sure that graduating seniors got the message, presidents repeated the theme in commencement addresses. Higher education leaders may believe this, but their message is muted because there are glaring inconsistencies within their own campus. Namely, one university office has been exempted from this academic zoning regulation: the Intercollegiate Athletics Department stands as a peculiar institution whose legacy is that discovering the truth, far from setting one free, imprisons one in a web of frustration and illogic.

John R. Thelin is university research professor and a member of the Educational Policy Studies faculty at the University of Kentucky.

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This is important for research about higher education, because in recent years there has been a groundswell of excellent scholarly works dealing with intercollegiate athletics The topic has both endurance and significance now that such disciplines as history, economics, law, literary analysis, and political science have been brought to bear on the serious study of college sports Don't hold your breath for any strong connection between research and reform As the scholarship on college sports gets better, the educational and ethical problems of college sports get worse

Murray Sperber's *Onward to Victory* stands as Exhibit A in the argument that good research does not necessarily lead to sound policies or practices In fact, Sperber's pursuit of truth in the past and present of college sports has made him an enduring figure who resembles Sisyphus Has he been condemned for eternity to push the stone of critical analysis up the mountain of college sports, yet always to have the data come rolling back down? The latest example in Sperber's research quest is a history of the recent past of college sports It follows from Sperber's earlier works *College Sports, Incorporated* and *Shake Down the Thunder The Creation of Notre Dame Football*

Sperber's excellent contributions include his reconstruction of the contracts and strategies of Don Spencer's Madison Avenue advertising agency in the 1930s through 1960s, which consciously drafted and then disseminated the images of college football stars in programs and publications across the country So pervasive were these graphics by commercial artists, such as H Alonzo Keller, that the heroic depictions on program covers seemed to have come out of a central casting office and then been disseminated nationwide The pervasive iconography probably qualifies as an indigenous, calculated influential and lucrative commercial art form And Sperber's ingenious research in the advertising files confirms the suspicion that intercollegiate athletics has been a market to be exploited by media and merchandise for a long part of our nation's social history Back in the early 1950s, ads for Wheaties breakfast cereal asked consumers the rhetorical question, "Are sports champions made or born?" Quite apart from buyers' response, the verdict is that college sports champions definitely were made in the copy writing and paste up offices And, important to note is that such commercial ventures could not have flourished without the direct cooperation of college sports information offices Athletic directors, presidents, and board members knew what they were doing—and knew what was going on in the press rooms, radio network offices, movie studios, and advertising agencies

At times the promotion of college sports led to some high stakes conflicts between individual institutions and such larger collective entities as conferences and the National Collegiate Athletic Association Coverage of television controversies involving the NCAA versus, respectively, the University of Pennsylvania and Notre Dame in the early 1950s is noteworthy in that it conveys the difficulties a single institution faced in trying to set its own policies and paths in college sports The collective and cumulative strength of conferences and the National Collegiate Athletic Association relied on both informal peer pressure and coercive regulation to control not only games but also promotions and broadcasts Sperber's research is especially good in focusing on the late 1930s and into the 1950s Just about when one thinks one has reached the depths of scandal, Sperber uncovers new—or, rather forgotten or suppressed—episodes that are embarrassing if not shameful The Black Knights of West Point come out tarnished They are marked both by gilt and guilt—in a detailed account of their abuses of numerous privileges, stockpiling of players, and bending rules under the football coaching regime of Earl "Red" Blaik. Coaches used to invoke the claim that college sports were an American version of Wellington's observation that the Battle of Waterloo was "won on the playing fields of Eton" In fact, West Point officials arranged draft deferments, special exemption on transfer rules to stockpile athletic talent that was sealed off from academics or from military service The All-American revision is that college sports, far from being a preparation for future leadership, became a self-serving end in itself

There are plenty of data to share across the country John Hanna, famous as the president of Michigan State University, is depicted as an academic leader who had much to lose and little to gain if big-time college sports were going to be subjected to serious reforms in the early 1950s Sperber's analysis indicates that Hanna short-circuited any efforts the American Council on Education made to lead college presidents to substantial reforms in the wake of the basketball point shaving scandals in the decade after World War II The importance of Sperber's profile of Hanna is that it erases the false dichotomy of college presidents versus coaches In fact, presidential views were scattered all over the map and never coagulated into a consensus for reasserting educational priorities and values

Football, long the major event, eventually shares the stage with the fame and scandals of college basketball Heroes take a beating, for such legendary figures as Clair Bee—famous as a player, coach, and author of juvenile sports stories—is shown to be central to the New York City-Madison Square Gardens point shaving controversies of the immediate post World War II era Despite initial disclaimers by coaches in the Midwest and South that this was a "New York problem," the scandals ultimately included such allegedly well-regulated programs as those at the University of Kentucky and Bradley

The sportswriters cliches often ring true as historical conclusions. Notre Dame, for example, truly was—and is—"in a league of its own." After reading Sperber's account of the deliberate "Fort Notre Dame" policy negotiated in the 1930s, the conclusion is that you have to hand it to the priests in South Bend: if Sperber's story is accurate, they have long been committed to excellence in sports—but also, to that accomplishment as part of a larger plan to build an academically distinctive institution and to do so without conference affiliation. At the same time, the Fighting Irish had recurrent problems of abuse with ambitious coaches who became national celebrities. The sad postscript is that in the past year revelation of scandals involving donors and escapades by some players put even a bit of rare tarnish on Notre Dame's golden dome.

Is it too much Notre Dame? Probably it is the one institution that best qualifies to be called truly "national." But I am going to go against the grain and argue that collegiate football really is a regional sport with a nationwide presence. Developments in college football in the Southwest Conference or the Southeast Conference in the 1930s and 1940s had little interaction with Notre Dame. Even today some of the New Year's Bowl Games illustrate the regional isolation of "national" teams: one learns, for example, that the University of California has never played the University of Virginia, except perhaps in competition for National Science Foundation grants.

Why doesn't Sperber's well-argued and well-documented analyses lead to cogent reform? First, one doubts that university presidents, athletic directors, or NCAA officials have either the inclination or thoughtfulness to consider his findings as the basis for reconsidering policies. Even when university leaders claim to have read his works, their comments suggest that their understanding is simplistic and their acknowledgements are gratuitous. For example, one president of a major university notes in his book jacket endorsement that, "Sperber documents the erosion of the once-noble ideal of the 'scholar-athlete.'" That endorsement sounds good, but misses the point: the "embarrassment and hypocrisy that now poison" college sports are hardly new. Rather, the research by Sperber and such authors as Ronald Smith, indicate that the abuses are deep-rooted and are actually at the essence of the intercollegiate athletics heritage in 1890 as well as 1950 and 1990. Heads up, Presidents!

There is, I think, another small but annoying feature to explain the diminishing-return research excesses. Even fellow faculty members grow weary of Sperber's research and writing style. For example, at the start of *Onward to Victory*, Sperber makes a good point in delineating the extreme camps of popular sports writers: the "Gee Whiz!" faction versus the "Aw, Nuts!" camp. Fair enough—until Sperber repeats this dichotomy and phrasing to the point of excess The aim of writing is to be both accurate and effective, and such repetition sometimes is wearisome, so that Sperber wins the battle of argument but wears out even his sympathetic readers

For part of his study he relies on content and trend analysis of *Sport* magazine as the key longitudinal source to track public opinion about intercollegiate athletics This is plausible but limited, and sometimes downright flimsy For example, I grew up reading *Sport* magazine and by age twelve found it trite and limited Whatever insights it offered about college sports in the 1950s, it was pretty shallow elsewhere Articles with titles such as heavyweight boxer Gene Fullmer's melodramatic, "Don't Call Me a Dirty Fighter," were followed by such graphic depictions of jockey Eddie Arcaro's biography as "Mister Banana Nose Wins the Big Ones " Are we really to believe that this is a source of profound policy analysis? Furthermore, Sperber's focus on that magazine's coverage of college sports tends to skirt over the larger cultural issue college sports (namely, football and basketball) enjoyed some visibility with the American public—but on the whole it was fairly transient and mixed with professional spectator and broadcast sports ranging from major league baseball to horse racing

So, one dysfunction is that Murray Sperber seems to be unable to leave *Sport* magazine behind at the right time What can one expect from an author who makes certain readers know that he once met journeyman major league outfielder Walt Dropo? My hunch is that there is a perpetual thirteen year old within the mature scholar Perhaps the saving grace of his writing style is that it does indicate that some of Sperber's most vocal critics (namely, coaches and athletic directors) are incorrect in dismissing him as one who has no experience with athletics To the contrary, Sperber probably is the ultimate fan and participant who just happens to write He seems to be saddened that the college games he loves are being sullied and exploited.

Andrew Zimbalist's *Unpaid Professionals. Commercialism and Conflict in Big-Time College Sports* make him a candidate for a dubious achievement award namely, it carries out the academic syllogism that if economics is the dismal science, then the economics of college sports is the most dismal science The book gets off to a shaky start, because the author feels compelled to provide readers a Cliff-Note summary of the history of higher education and athletics This compression is not necessarily inaccurate, but it is simplistic, given the number of good historical treatments readily available If you can gloss over the forgivable limits of the preamble, you will be rewarded when you reach the main event

Zimbalist's work gathers momentum when he draws on his skills as an economist to dissect some recent developments

Zimbalist's central point is that the structure of big-time intercollegiate athletics has institutionalized conflicts and contradictions It ostensibly insures regulation of amateurism and fair play, yet actually carries out a deliberate financial strategy that rewards institutions at the expense of "student-athletes" This is no idle allegation Zimbalist synthesizes important works by such prominent economists as Gary Becker and, elsewhere, Arthur Fleisher, Brian Goff, and Robert Tollison's 1995 work, *The NCAA* And, after having summarized and built from these secondary sources, Zimbalist presents his own original research It is impressive because it deals with the economics of college sports in both macro and micro perspective

At the macro level, college sports is an orbit of shoe contracts, deals with television networks, and bowl sponsors—i e , commercial promotion Yet the NCAA's brochures and television spots emphasize its role in balancing academics and athletics Zimbalist presents the formal public relations statements of the NCAA and its role in reform and regulation He then follows with an alternative analysis of these claims, looking at latent functions as well as the organization's public claims In sum, Zimbalist and numerous economists conclude that the NCAA's major accomplishment, apart from its self-professed mission, is to create an economic cartel for big-time college sports Beneath the rhetoric of amateurism and concern for athletes as students, Zimbalist probed the internal workings of the NCAA and uncovered such data as the following "What the NCAA saves on its enforcement budget seems to find its way into financing a life of luxury for the Association 's top executives In the fiscal year ending August 31, 1997, Cedric Dempsey, the NCAA's Executive Director since 1994, had a total compensation of $647,332" Zimbalist proceeds to note that the NCAA refused to divulge Dempsey's fiscal 1998 or 1999 compensation, but they defended his salary as "dictated by the market" Zimbalist is at his best when he goes beyond summary into asking basic, essential economic questions that cut through cliches "What is the market for executive directors of monopoly college athletic associations?" (p 181) He answers that question by comparing the NCAA rationale with salaries of CEOs at large, national nonprofit organizations, including the American Cancer Society, the Red Cross, and university presidents By such standards, the NCAA executive director's compensation is high—and, when perks are included, soars in comparison to that of leaders of other organizations

Generous compensation is no recent fluke Dempsey's predecessor, Dick Schultz, enjoyed both a high salary and allowances for flying a

Lear Jet bought by the NCAA on more than three hundred trips And so it goes Meanwhile, during the same period that NCAA administrative compensation has ascended, the NCAA has suffered several scandals as well as having lost expensive law suits in the courts

To supplement study of the overriding association dynamics, Zimbalist looks intensely at the rhetoric of NCAA operations and the campus level Returning to the liturgy of "market driven" financial behaviors, he considers disparities in coaching salaries within big-time universities The best case study looking at the issue of disparities in basketball pay for men and women coaches at the University of Southern California What is perversely refreshing is for academics to have to consider once again that sound research and logic do not necessarily lead to a happy ending To return to my earlier theme after reading Zimbalist's accounts of the finances of athletic programs and of bowl games and basketball tournaments, one has the hunch that only Lewis Carroll's system of logic and metaphors could bring meaning to college sports as one goes through the "looking glass" of incomes and expenses where nothing is what it seems to be

Zimbalist concludes with several concise, thoughtful proposals for reform It is the institutional equivalent of a "ten point plan" for—quitting smoking, for example—but in this case, the aim is to curb athletic abuses and to acknowledge some of the truly professional characteristics of big-time college sports And, with each plank of his platform, he elaborates, provides data, and builds a logical case The problem is—to return to my opening caveat about intercollegiate athletic departments and conferences—it is so reasonable that it is destined to be derailed or evaded by NCAA officials, athletic directors—and most of all by university presidents and board members

Perhaps one can dismiss Murray Sperber and Andrew Zimbalist as academic nerds who are whining because they have been locked out of the college sports bonanza If so, then an interesting counterpoint to their scholarly dissections of college sports is Walter Byers' memoir and expose, *Unsportsmanlike Conduct* Byers' autobiographical account confirms the adage that fact is stranger than fiction He served as NCAA Executive Director from 1951 to 1987 and reconstructs a world turned upside down He claims to be concerned about the welfare of "student-athletes" Whereas Sperber and Zimbalist deal with systematic data and treat the campus as their beat, Byers provides a glimpse of another world in which he relies on personal anecdotes to cover the waterfront of the NCAA offices, punctuated with a succession of meetings and deals at airports, downtown hotels, television network corporate offices, and

NCAA annual conventions. Most conversations seem to have taken place in smoke filled restaurants, over drinks. Here's a guy whose major legacy is to have catapulted intercollegiate sports into a television cartel and to pull off the amazing feat of mixing commercial promotion with regulation and compliance.

Byers' book is often unoriginal and transparently self-serving. The attractive title, for example, replicates Paul R. Lawrence's excellent and underappreciated 1987 book, *Unsportsmanlike Conduct: The National Collegiate Athletic Association and the Business of College Football.* Borrowing a title can be seen as a minor penalty—metaphorically, a fifteen yard loss. Byers' major offense is that his unoriginal title does not convey the essence of his own book. He could have gained some measure of honesty if he had opted to resurrect Norman Mailer's provocative title, *Advertisements for Myself.* Why? Because his memoirs continually are slanted to depict himself as a reformer whose foremost concern is the welfare of student-athletes. As often is the syndrome with memoirs by executives who have retired from office, Byers' belated revelations are unconvincing because they surface too late to be influential.

Even though Byers' autobiographical account is self-serving, it does make an interesting argument that is embarrassing to the higher education establishment. Namely, he claims that university presidents have (to use a sports cliché) "dropped the ball" in pushing for reforms that would integrate academics and athletics. He contends that the NCAA under his leadership merely filled a void of leadership and regulation that university presidents and such groups as the ACE and regional accreditation agencies were either unable or unwilling to fill. As such, it is an example where autobiography makes a good companion piece to the historical analyses provided by Sperber in *Onward to Victory.* Byers' account of the academic leadership vacuum is consistent with Sperber's depiction of Michigan State President John Hanna and the American Council on Education task force. Yet Byers is not convincing in his recollection that his role was as bona fide reformer. He was the personification of the fox asked to guard the henhouse. Byers seems to have been more comfortable with Roone Arledge than Derek Bok.

Beyond the Big Time

To underscore the tragicomedy of the situation, note that most analyses and exposes focus on Big Time Sports—usually designated as NCAA Division I, especially Division I-A programs. On closer inspection one finds that the financial problems and even the educational-ethical conflicts are, in fact, pervasive and troubling. The financial strains and unbalanced budgets are most evident in Division I-AA sports—incipient big-time programs that want grants-in-aids, large crowds yet seldom can attract the coverage of network television broadcasts

The most troubling evasion is the recurrent and facile claim that NCAA Division I athletics programs ought look to other categories for models and inspiration of reform In short, there persists the fallacy of de-emphasis In fact, what has happened is that NCAA Divisions II and III , along with the NAIA, have started to act increasingly like the NCAA Division I Two years ago the *Harvard Alumni Magazine* cover story dealt with recruiting student-athletes at Harvard and other Ivy League colleges The gist of the article was that coaches at the Ivies spend more time recruiting than coaches elsewhere because it is a tough, tight arena due to academic standards and competition with Duke, Stanford, and others with grants in aids Yet, curiously, the SEC, Big Ten dismiss the Ivies as" small time " They are not

Can you believe this? Even Amherst College's faculty complained last year that classroom work by their student-athletes appeared to be suffering because of the paradox of success numerous Amherst men's and women's teams were competing in NCAA Division III championships (Most deans and athletic directors would, of course, love to have Amherst's problems, whether they be academic, athletic, or financial) The serious point is that there is a body of research literature that now goes deeper than the predictable invocation of Division III as the counter or antidote to what ails Big Time college sports In fact, the demands on student-athletes whether at Auburn or Amherst, are substantial

The net result of the three works is that we have problems without foreseeable solutions Given the failure of deliberate reform by such self-appointed and self-righteous groups as the Knight Foundation Commission, let's shift policy recommendations to transplants from the airlines industry. namely, what about deregulation?

A Modest Proposal Deregulation

Reasonable reform efforts have pleased no one Even the winners in commercialized college sports see themselves as losers For example, a recurrent liturgy is for an athletics director or coach to complain, "The NCAA Manual is 700 pages thick It is over-detailed and petty in its restrictions " In an amazing display of myopia and self-deception, they fail to address the issue, "How did this come about?" Did vigilant faculty squeal to the NCAA committee? That's unlikely Rather, the enlargement of the enforcement squad and code has been a product of coaches complaining about other coaches

The most compelling reason for minute, detailed regulations is that coaches cannot be trusted For one variation on this theme consider how about a decade ago the NCAA prohibited athletics dormitories The rationale was that athletes should not be controlled in isolation from "real students" In truth, coaches and athletic directors push the laws to the limit, following the letter rather than the spirit Year-round team meetings combined with summer conditioning, mandatory weight-training, off-season preparations, prescribed study halls for athletes only and dormitories that are only marginally sprinkled with nonathletes (e g , a few token student managers) represent one widespread example of "compliance"

Why do we persist in seeing such conduct as a problem? Why not deregulate college sports? Why shouldn't Auburn be allowed to have thirty assistant football coaches if they wish to do so? What is to be gained by lamenting that a college coach is out of line for receiving a million dollars per year in compensation package? By embracing the principle that the exceptions make the rule, all groups would have the foundation to bring consistency and consequences to their practices Regulations would be redrafted or abolished to reflect constituents wishes and customs The interesting result is that each institution would have to rethink and renegotiate its campus priorities—and those of its athletic opponents

One consequence of such deregulation would be that it might curb the predictable melodrama of sportswriters who claim to be shocked or suprised when they cyclically rediscover campus corruption For example, in the past two years the University of Minnesota has gained national press attention for exposes of its abuses in providing bogus term papers for basketball players Why is this news? Maybe it is the norm? Who has taken the time to remember the 1980s court case involving Golden Gopher basketball player Mark Hall? His victory in the courts led a judge to rule against the University of Minnesota, with the public scolding that they had no intention of ever serving the educational needs of this athlete It was well ahead of recent allegations about Coach Clem Haskins and the amazing term paper machine

Why continue to have faith in a legal and regulatory system that is inadequate because it is faint-hearted? Where is the IRS in all this? By what logic or periodic review does the NCAA qualify as a nonprofit educational institution with tax exemptions? Unfortunately, the answer is the same logic that allows the NFL to gain nonprofit status Has there ever been an institution that had its regional accreditation threatened due to improprieties in its intercollegiate athletic programs? Do any NCAA Division I member institutions accurately depict intercollegiate athletics as a central part of their mission statement? Where is the Association of Governing Boards in its proper role to educate board members? They did sponsor a superb guide written by L. Jay Oliva about a decade ago, but for the most part, university board members have been either indifferent or ineffective in serious reform of the excesses of college sports.

The problem of intercollegiate athletics policy reform is that the structures and vocabulary are calcified. Substantial change is unlikely because negotiations and vocabulary are caught in a gridlock of predictable liturgies by presidents, coaches, athletic directors, and NCAA officials. Because scholarly research or journalism have done little to correct essential features, deregulation offers a ray of hope: it just might allow the system's greed to cause it to overextend itself and implode. If so, reform could then take place as reconstruction of a genuine "New Deal" for athletics and academics.

Book Reviews

The University Gets Religion Religious Studies in American Higher Education, by D G Hart Baltimore, MD
The Johns Hopkins University Press, 1999 321pp $38 00

PHILO A HUTCHESON, Georgia State University

In *The University Gets Religion* Hart argues that religion was an extracurricular affair in the university of the late 1800s until those institutions were able to find professors willing to teach what he calls "Enlightened Christianity" He carefully details the development of national organizations that supported both extracurricular religious efforts and the teaching of religion as well as the continuously ambiguous institutional responses to such efforts

A primary strength of the book is Hart's argument that religion, as any part of the curriculum, develops in part because of external and internal political reasons As professors at seminaries and at undergraduate programs struggled with how to teach what form of Protestantism to whom, and specifically the problem of whether religion courses were an instrument of faith or investigation, they also struggled with colleagues and presidents in finding places to offer courses Public as well as private universities addressed the problem, and Hart finds the University of Iowa notable in its attempt to offer religion courses He also clarifies that it was only in the post-World War II era that religion was clearly placed within the humanities, in a slow reaction to the general education movement and a more rapid reaction to the democratic euphoria after the victory over the Axis powers

His work is also valuable as a rich source on just how we have come to argue, in academic and even broader intellectual terms, about Protestantism and the history of this nation Hart provides an extensive discussion of the ways in which historians came to recognize the complex relationship between religions and the development of the United States His examination of major and popular theologians of the post-World War II period, such as H Richard Niebuhr, Reinhold Niebuhr, and Paul Tillich, establishes how universities finally accepted religious studies The theologians' arguments about the need for faith in the face of the challenges in the modern world provided a conviction, albeit temporary, for the inclusion of departments of religion Their success stands in contrast to the discussions of Protestantism's place in the curriculum from the late 1800s to the 1940s, when theologians argued for various forms of religious studies within their own circles, apparently attracting little attention from other academics

Finally, *The University Gets Religion* is a reminder of how tremendously troubled arguments about general education are, as the unifying principle of the curriculum based on Christianity began dissipating in the early 1800s, and despite the fervor of general education proponents since then, the unifying principle remains elusive Religion has no more provided a suitable answer for most colleges and universities than have other subjects, such as metaphysics Hart traces the development of religious studies in part through the arguments of seminarians and also in part through leaders of such organizations as the National Association of Biblical Instructors, which in 1964 changed its named to the American Academy of Religion in order to suggest broad scholarly interest in religion Although he argues that religious studies is especially challenged by its lack of unity, the specialization of disciplines—witness the annual characterizations of the Modern Language Association and its multiple identities in the *Chronicle of Higher Education*—is a story of the post-World War II curriculum

Hart bases his final argument, that the university ought to consider excluding the study of religion, on Louis Menand's examination of academic freedom and its need to exclude nonacademic perspectives and on "the logic of multiculturalism," that all voices ought to be heard Hart suggests that religion cannot meet the criteria of secular research and teaching, and it ought to be excluded because it represents a special interest area These are odd assumptions given Hart's own adroit presentation of religion and religious studies as products of political processes, as if neither secular teaching and research (Hofstadter & Metzger, 1955) nor any discipline or field (Furner, 1975) encountered political processes Perhaps all political prices are too high for scholarly respectability, and for Hart the mammon of scholarship is not worth God's word Yet many scholars, including Hart, have conceded that the bargaining continues

Hart is a professor at Westminster Theological Seminary, which has a number of apparent results for his book First, he writes with passion about the place of Protestantism in United States higher education from the late 1800s to the late 1900s, identifying himself in a footnote as a neo-harmonist and arguing for the continued presence of Protestantism in intellectualism in this country Second, he is clearly comfortable with the variety of positions and organizations in Protestantism from the late 1800s to the mid-1960s, writing about them with a combination of detail and insight that helps the reader through the typical complexity of higher education in this country Third, and unfortunately, he offers several terms which he apparently knows well but does not define, such as Progressive Protestantism, New England Theology, civic religion, the fundamentalist controversy (only vaguely defined), the various theological disciplines, religion, religious studies, or theology, although the overriding and usually implicit assumption on the last three is that they are Protestant Nor does he ever really clarify what departments of religion or religious studies are, whether they are the same or different He also discusses the impact of what he calls the average middle-class Northeasterner, even though two of his favorite examples of virtually Godless universities are Midwestern Chicago and mid-Atlantic Johns Hopkins Finally, he does not define professionalization, a term with multiple meanings and of great import for a work examining specialization and research in the academic world

There are also technical and conceptual problems in the book in terms of its historical treatment of the topic In regard to specific historiographical technical issues, Hart highlights the years 1965 and 1970 without explanation The final section of the book is titled "The Age of the American Academy of Religion, 1965–Present," but he indicates that the Academy was formed in 1964 Although he often mentions 1970 as a turning point, the only precise mention of that year in the text is a major overview work he identifies as published in 1970, although his footnote (and a library search) confirmed that the book was published in 1971

Regarding conceptual historical issues, although Hart accurately argues that modern universities have had a troubled relationship with religion, United States higher education has had uncomfortable dealings with Christianity and its denominations since the colonial era, when the second president of Harvard College was dismissed for his views on baptism Furthermore, colleges were badly shaken by the series of Great Awakenings in the 1700s and 1800s, as documented by Jurgen Herbst (1976) and Richard Hofstadter (Hofstadter & Metzger, 1955), when students participated in religious revivals outside the institutional curriculum and seriously disrupted the functioning of many colleges Hart's exclusive focus on the modern university leaves a complex history unexamined, for his discussion responds almost solely to Laurence Veysey

Thus in some ways this book is a reminder that Veysey remains a shibboleth His work is now thirty-five years old, and it is still the most comprehensive attempt to frame the history of United States higher education Many historians of higher education have successfully challenged some of Veysey's conceptions, and the more recent historical scholarship on women and people of color in higher education (Solomon, 1985, Anderson,1985) especially highlights how his work reflected the more narrow views of the 1960s Yet he remains the point around which historical arguments circle Hart illustrates this point in both direct and indirect ways, not only focusing on Veysey but also ignoring other, even more critical, evaluations of Protestantism's relationship to higher education Hofstadter, for example, delivered a withering assessment of the early denominational colleges in *The Development of Academic Freedom in the United States* (Hofstadter & Metzger, 1955), setting historical and historiographical precedents for the universities that Hart studies, creating a history of those institutions and also analytical patterns that historians relied upon well into the 1970s Hart, however, does not cite that work

This book provides a contribution to the critical issue of higher education's relationship to Protestantism, but the field of higher education and religion that still needs an authoritative overview accounting both for differences among institutional types (if not control, since state institutions have often practiced religion) and among religions, as Linda Eisenmann (1999) and Kathleen Mahoney (1996) have argued Hart's failure to address Catholicism and Judaism belies the problem of higher education and religion He specifically conflates Christian and biblical theology, and consistently uses religion as the term for Protestantism Other than a relatively brief discussion of recent attempts to incorporate a variety of religions into religious studies, Hart in hundreds of pages offers scant attention to Catholicism or Judaism, despite those religions' tensions with United States higher education In particular, Philip Gleason (1995) and Edward Power (1958, 1972) have both written extensively on Catholicism and higher education in this country, and Paul Ritterband and Harold Wechsler (1994) wrote a comprehensive and insightful work on Judaic studies in this country, these works, much like Hart's, examined in detail the various tensions that religions, and the religious, face in the university Marsden, with whom Hart worked, takes Catholicism into account in his work, *The Soul of the University* (1993) Given the amount of work on higher education and other religions and the quality of that work, it appears that Hart has committed not a sin of commission, but a sin of omission Defining religious studies and religion simply as Protestantism, especially without any articulate defense of such a definition, will leave many a reader unconverted to Hart's arguments

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Civic Responsibility and Higher Education, edited by
Thomas Ehrlich Phoenix, AZ The American Council
on Education/The Oryx Press, 2000 403 pp $34 50

JOHN P MYERS, Ontario Institute for Studies in Education

During the past four decades, there has been a fascination with the relationship of education to democratic citizenship and political participation, a relationship made evident by the numerous studies on political socialization that correlate education to political attitudes, behaviors, and knowledge (e g , Almond & Verba, 1963, Putnam, 1993, Nie, Junn, & Stehlik-Barry, 1996, Niemi & Junn, 1998, Hahn, 1998) In these works, education is the single most powerful predictor of civic and political engagement, and therefore considered one of the keys to strengthening civic culture Almond and Verba (1963) observed that among other variables "none compares with the educational variable in the extent to which it seems to determine political attitudes" (p 379), and Putnam (1993) stated that "education is one of the most powerful influences on political behavior almost everywhere, including Italy" (p 118) On the other hand, Nie, Junn, and Stehlik-Barry (1996) argue that political engagement (knowledge of and participation in politics) is determined by one's relative, rather than absolute, educational attainment, whereas democratic enlightenment (values and norms) increases in step with educational attainment Although it is clear that formal education has an effect on political behavior, it is more difficult to determine if education is an independent variable or a proxy of other variables, such as social class, and school is sorting out by socioeconomic status In addition, there has been a smaller body of work on the theory of democratic education, highlighted in 1916 with John Dewey's landmark *Democracy and Education*, which asserts the prominent role of education to the success of democratic culture (e g , Dewey, 1916, 1939, Gutmann, 1987, Torres, 1998)

Civic Responsibility and Higher Education consists of 19 essays, organized in five parts, which originated from a conference sponsored by the American Council on Education The volume is most concerned with building on the widely accepted relationship between education and democracy by describing the obstacles, challenges, and potential of higher education for improving civic engagement Consequently, it is not firmly located in either the empirical or theoretical traditions, as most chapters are predominantly descriptive, prescriptive, or polemical On the whole, the book deals with issues of meaning in higher civic education, an approach that generally creates more questions than answers The primary contribution of this volume is its description of the current state of higher civic education in the United States and its sampling of current programs of civic education

Ehrlich, the editor of this volume, asserts that the greatest challenge for higher education is to meet Dewey's mandate for civic engagement, namely, that democracy "is primarily a mode of associated living, of conjoint communicated experience" (p vi) By raising important and challenging questions, such as what higher educational institutions can do to promote civic engagement, and attempting to identify the good models of the civic-minded campus, the authors hope to fulfill their conviction "that higher education has the potential to be a powerful influence on reinvigorating the democratic spirit in America" (p xxviii) They agree that this role is too often either ignored by national reports or denigrated as being part of the problem

Part 1 (Sax, Sullivan, Boyte & Kari) explores the problems of promoting civic engagement in higher education from the point of view of students and from that of the institutions A common theme is that the civic mission of universities and colleges is failing and is in need of revitalization and redefinition In a study by Sax, citizen development of college students is analyzed using national data from the Cooperative Institutional Research Program (CIRP) of UCLA An interesting finding is that volunteer rates by university students have risen in step with the decreasing participation of students in political activities, suggesting that although there is a strong inclination for activism, students seek opportunities outside of formal politics for its expression (p. 15). What this means for universities is not at all clear and is not addressed in this or other chapters: are universities part and parcel of the problem, by promoting service learning over political engagement?

Part 2 (Thomas, Schneider, Astin) outlines innovative university and college programs that promote civic responsibility and some strategies for improving civic education, while calling for a more engaged approach to the public sphere by universities. An analysis of the educational missions of universities and civic life finds that we are in need of "a far-reaching conversation about education for citizenship as an actively owned commitment of the American academy" (p. 121), including curricular initiatives. In the final chapter, Astin argues that programs to better educate "underprepared" students, by lessening the social inequalities that impede it, is an important step toward strengthening civic life. This chapter acknowledges that civic culture is heterogeneous across socio-economic classes, an assertion supported by the finding that political participation consistently correlates to socioeconomic classes.

Part 3 (Matthews, Rosen, Benson & Harkavy, Eckert & Henschel) discusses the ways in which higher education institutions work with other social sectors, such as the media or politics, concerning the role of civic responsibility. Higher education, Matthews argues in his chapter, is in the unique position of being able to reconnect citizenship to politics by altering the perception of citizenship as individual altruism. Other chapters illustrate how the fields of journalism, primary and secondary education, and technology also have the potential to integrate universities with the public sphere and develop the civic responsibility of students.

Part 4 (Elsner, Ramaley, Prince Jr., Scott, Byron, Walshok) describes how the role of civic education is perceived from the diverse institutional points of view within higher education. Higher education is composed of a heterogeneous set of institutions, including community colleges, comprehensive universities, liberal arts colleges, historically black colleges, religious-based institutions, and research universities, which each have a distinctive role to play and contribution to make toward the civic role of higher education. For example, Byron (chap. 15) maintains that moral formation is the primary objective of civic education and that service is a principal component in achieving its aims. He states that religious-based colleges and universities are capable of linking community service to an expression of faith, which facilitates elevating the concept of a common good.

Part 5 (Zlotkowski, Wellman, Hollander & Hartley) is concerned with specific challenges in higher civic education, such as implementing service learning programs, creating better tools for assessing the contributions of higher civic education, and identifying the potential benefits of a civic education network.

Several questions can be raised at this point. What is the conception of democracy underpinning this volume's model for civic engagement? What kind of democracy do these essays promote? And what is the affiliated conception of political participation that it entails? There is not a single model of civic engagement or democratic citizenship, and it is important that these concepts are sufficiently examined A belief in the transformative value of the civic virtues, such as social trust, respect for the law, and concern for the common good, is central to many of the essays of this volume The republican tradition of democratic theory holds that civic virtues are the normative building blocks of democratic citizenship This belief, and the pedagogical assumption that civic virtues can be taught through service learning—in a classroom to sometimes unwilling students—is highly questionable, as is the implicit assertion that they can solve the "crisis" of democratic apathy and disengagement

Unfortunately, most chapters do not follow on the call made in the Introduction for an emphasis on political participation (along with individual integrity and social and civic responsibility), noting that it has been the most neglected aspect of civic responsibility in higher education If one is to take this seriously, then curricula and programs in higher education must go beyond the inculcation of values to the preparation of students for political participation by taking a more active approach to conceptions of democracy Virtues and values are a fundamental element in any democratic educational system, yet they should not be viewed as a magic bullet or miraculous cure-all

Whereas in the Preface it is pointed out that the authors of this volume collectively adopt Dewey's views on democratic citizenship, they stop well short of his radical intent Dewey's belief that the democratic idea generally "consists in having a responsible share according to capacity in forming and directing the activities of the groups to which one belongs and in participating according to need in the values which the groups sustain," casts doubt on the centrality of a pedagogy of moral character and civic virtues for sustaining civic engagement and strengthening democratic practices (Dewey, 1927, p 147) Many of the so-called Deweyan pragmatists and educational theorists have appropriated Dewey's community-centered approach while ignoring or de-emphasizing his hope for social reconstruction, institutional experimentation, and inclusive participatory democracy On the issues of deepening democracy and fostering greater equality, this volume offers valuable insight and analysis and a number of important and useful recommendations for colleges and universities However, it puts too much emphasis on civic virtues as the primary answer to achieve a more egalitarian and inclusive democracy To realize Dewey's goal for a more deeply democratic society, universities would also need to educate students for democratic participation, incorporate democratic authority structures in which students can participate, and critically address the growing influence of corporations in higher education, issues that are largely ignored in these essays This volume will be most useful to college and university faculty, administrators, and others involved in determining the future direction for higher education, as well as to individuals concerned with the state of American democracy and the condition of its higher education institutions, yet there remains considerable space for further research and analysis

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Multiple and Intersecting Identities in Qualitative Research,
edited by Betty M Merchant and Arlette Ingram Willis
Mahwah, NJ Lawrence Erlbaum, 2001 146 pp $36 00 ($18 50)

SUSAN R JONES, The Ohio State University

Multiple and Intersecting Identities in Qualitative Research is a fresh, authentic, and important collection of narratives exploring the web of connections between personal identities and scholarly inquiries Each author weaves together, in both seamless and tangled ways, the threads of personal subjectivities and multiple identities, cultural knowledge and heritage, and research interests and contexts in a way that gives rise to provocative questions and insights In particular, "this book is a collection of reflections of researchers as they have attempted to analyze the personal and professional context in which research is conducted" (p ix) Furthermore, because the authors are early in their professional careers and for the most part, persons conducting research in their own communities, each wrestles with important questions that emerge for them in relation to the research process and their academic "success " As the editors write in the preface to their book

> Taken as a whole, these seven chapters offer a serious challenge to the overly simplistic, often dichotomous descriptors (e g , 'insider' vs 'outsider') that have dominated the research literature for far too long The authors write directly and courageously about the ways in which their multiple identities and positionalities harmonize, and at times conflict, with those of their research participants, in doing so, they call attention to important complexities in the qualitative research process that have, until now, received little or no attention (p x)

Because of what I, a White woman, also young in her academic career and whose work focuses on the area of multiple identities using qualitative methodology, understand as the purpose, message, and spirit of this edited volume, I write this review drawing upon the authors' own voices as much as possible through ample quotations from the chapters in this book

The first chapter, "Negotiating the Boundaries and Sometimes Missing the Mark A White Researcher and a Mexican American Research Assistant," written by Betty Merchant, is a candid reflection on the issues that emerged from collaborative research Describing a study of experiences of education among Mexican immigrants, Merchant examines the complex dynamics emerging from a research context in which one researcher was White, the other Mexican American, the teachers were nearly all White, and the participants in the study Mexican American Merchant's willingness to acknowledge and grapple with these complex issues and to question her own positionalities and subjectivities results in the illumination of issues rarely brought forth in academic writing

This chapter, when read in tandem with the one written by Merchant's graduate student research partner, Martha Zurita, and entitled "La Mojada y el Coyote Experiences of a Wetback Researcher," provides unique perspectives on the research process and the influence of personal identities and histories on how research is conducted and why For example, Merchant comments, "My perceptions of the similarities between us tended to obscure important differences between us, which prevented me from realizing that we were experiencing the process very differently from each other" (p 4) Merchant's candid and authentic admission of the limits of her understanding are refreshing and lead to important insights For example, although Merchant indicates that she was familiar with the literature on the tendency of White researchers to "give voice" and co-opt the experiences of "the other," this was not enough She writes "Familiarity with this literature was necessary, but not sufficient, for adequately monitoring my own subjectivities during the research process Furthermore, the substantial work that I have done with Native American educators, which, by agreement, is directed by their needs, goals, and preferences and is situated within their cultural context, was not enough to prevent me from lapsing into culturally biased patterns of research" (p 15)

Zurita in her piece chronicles her growing frustration with a research process that focuses on understanding rather than action, intervention, and advocacy In particular, she illuminates "some of the ways in which a researcher's race or ethnicity can shape the nature and quality of the research he or she is attempting to conduct, particularly when this research involves studying issues related to members of the researcher's own racial or ethnic group in an oppressive situation" (p 20) Zurita eloquently describes how she was perceived in the research setting by the teachers (mostly White) and by the students (Mexican) and the personal dilemmas that emerged for her In particular, she found that she could no longer sit back in the positivist tradition and continue to objectively document failure However, she writes, "I was immediately made aware of the fact that my intervention would compromise the purpose of the study, which was to view the students in their natural setting and to document what would normally happen in the school if I had not been there to assist the Mexican students" (p 29) The work of both Merchant and Zurita poignantly suggests that although one might be proficient in the mechanics of research, complex dynamics emerge from the "intersection of your research activities and your race or ethnicity" (p 31)

Lubna Nazir Chaudry's chapter, "You Should Know What's Right for Me! A Hybrid's Struggle to Define Empowerment for Critical Feminist Research in Education," explores the process of hybrid cultural identity development among self-identified Pakistani Muslim females in the United States She raises important questions about the research process and the construction of empowerment through the retelling of two episodes from her research Her critical analysis of these episodes "illustrate that unless agendas of empowerment are seen as arising from the specificity of women's lives and experiences, feminism becomes another hegemonic system of meaning" (p 40) Exposing the Eurocentrism implicit in feminist research, Chaudry maintains that the researcher maintains a position of power in defining empowerment as "an authentic, fixed, absolute consciousness, and by implication the feminist or critical researcher becomes the bearer of this asset" (p 41) Instead, Chaudry suggests, empowerment must be defined and constructed from the cultural context in which one lives

In "An African American Female Researcher's Journey Epistemological, Conceptual, and Methodological Concerns," Arlette Ingram Willis describes a personal journey in the search for her "academic voice" that honors who she is and meets academic norms for scholarship In so doing, she exposes the academic silencing of certain voices, ways of knowing, and areas of inquiry Drawing from her own research, she captures what is so problematic about White researchers conducting research on communities outside their own when they do not position that research within larger sociohistorical contexts However, she also points out that the work of African Americans studying their own communities is largely dismissed or marginalized

Annette Henry, in "Looking Two Ways Identity, Research, and Praxis in the Caribbean Community," echoes the message of previous authors in suggesting that one's identity and cultural knowledge is integrally related to the research questions explored and to the way research is conducted In so doing, she reinforces the notion that simple, dichotomous definitions of identity do not reflect the complexities of individual life history and circumstances She juxtaposes her own background, ways of knowing, and scholarly interests with what is privileged and rewarded in the academy She expresses, "I am mindful of my commitments and the purpose of working in the Black community as a Black female researcher, thus, I do not want to participate in 'hit-and-run' research, as Kirin Narayan (1997) explains, research 'in which engagement with vibrant individuals is flattened by the demands of a scholarly career'" (p 65)

Beloo Mehra in "Research or Personal Quest? Dilemmas in Studying My Own Kind" further complicates the questions emerging from researching one's own community because of her simultaneous insider and outsider standpoints among the Asian Indian families she was studying In a clearly organized chapter she explores methodological issues evolving from the interaction between her identities and those of her participants and the tensions that emerged between research and advocacy and between researcher and friend In her effort to resolve these tensions, she poses a more basic question-why do research? How personal can research be? Embedded in this question is another even more central-is it possible to truly separate the self from the research process?

Anya Dozier Enos crafts a research design reflective of her Native American heritage, which is described in her chapter "A Landscape with Multiple Views

Research in Pueblo Communities " She artfully explores culturally alienating traditional research paradigms and puts forth a methodology more consistent with Pueblo values, norms, and traditions Woven into the narrative is her personal identity and an examination of how her own subjectivity links to and complicates her study of Pueblo students' experiences with mainstream schooling She writes, "the paradox of identity, the ambiguity of school I see it in my research, I see it in my life The study families and I continue to struggle with these issues while committing in some way to both the Pueblo and formal education" (p 100)

The final chapter in this book, Judy HeeSung Kim's "Asian Americans Refuting the Myth, Changing Faces," covers a breadth of material including a good summary of the literature on the myth of the "model minority," a description of her own research, which focused on a case study of the educational experiences of a group of Korean American students at a large university, and the implications for policy from her results In her examination of the interrelationships between race, gender, and culture among Korean Americans, she exposes the inadequacies of cultural labeling Despite a chapter ambitious in scope, Kim also explores the dynamics of conducting research among those with the same ethnic heritage as her own, but very different cultural socialization In so doing, she explodes the myth of the model minority, describes important cultural differences in the "Asian community," and identifies policy implications based upon reconstructed understandings

Willis and Merchant weave together the continuities and discontinuities of the preceding chapters in an eloquently written "Afterword " They summarize the outcome associated with preparing such a book "What has come out of our work together is an increased appreciation for the complexity of the research process and the importance of conveying this complexity in our teaching as well as our writing Most importantly, perhaps, we have learned that compassion is an essential ingredient for understanding others and ourselves, and for working together for meaningful social change" (p 135) Each chapter, indeed, provides a rich example of the complexities of research when personal identities are considered integral to the process, when reciprocal relationships between the researcher and participants are valued, and when social change and justice are seen as a necessary outcome of research Written primarily by women of color conducting research in their own communities, these narratives also provide poignant testimony to academic norms, expectations, and socialization that work against the singing of "the songs of our souls" (p xiii)

Multiple and Intersecting Identities in Qualitative Research makes a significant contribution to an understanding of qualitative research through an artful grappling with complex methodological issues Each chapter provides insight into questions about researcher subjectivity, the relationships between the researcher and participants, and the purpose of research More importantly however, the collection of narratives, pushes the boundaries of traditional understandings of identity, the research process, access to certain research settings, and the role of the researcher This is a complex text and a daring work as each author tells her own story while telling those of her participants Each narrative is at once self-reflective, analytical, and critical The personal and scholarly are woven together in such a way that one cannot be fully understood without the other However, while the call to connect one's personal subjectivities with an area of inquiry is compelling, it is not without challenge and potential cost The authors navigate this difficult terrain with candor and authentic questioning The writing style of each chapter is inviting and engaging so that the author brings along the reader in a search for deeper understanding

This text makes an important contribution to the literature on qualitative research as well as identity development It would serve as an effective text for qualitative research classes as each chapter explores important aspects of the research process as well as raises significant questions for those engaging in qualitative research The book could also be used as a text for developing knowledge and understanding of cultural and racial groups, for each chapter represents a study with a particular group In grappling with the question of the central purpose of research, this book is also an important source for anyone conducting research who cares about scholarly inquiry as a strategy for social change and justice Each author in *Multiple and Intersecting Identities in Qualitative Research* provides testimony to the transformative potential of research when personal subjectivities, cultural histories, and structural change are considered

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Separate by Degree Women Students' Experiences in Single-Sex and Coeducational Colleges, by Leslie Miller-Bernal New York
Peter Lang, 2000 400 pp paper $29 95

LISA E WOLF-WENDEL, The University of Kansas

Miller-Bernal's book, *Separate by Degree,* presents a compelling history of the treatment of women students at four different types of institutions–a women's college (Wells), a coordinate college (Hobart and William Smith), a former men's college that became coeducational in 1883 (Middlebury), and a college that became coeducational in the 1960s (Hamilton/Kirkland) One of the characteristics that makes these places unique, and a good choice to study, is that they are among the less selective and less well known liberal arts colleges in the United States (although Middlebury has developed a strong reputation in the last part of this century) Indeed, much of the published research about women's colleges, in particular, and liberal arts colleges, in general, seems to focus on the most well known institutions The choice of these case study sites makes Miller-Bernal's study both unique and important to the field

Relying on secondary sources as well as institutional documents, diaries of alumnae, archives of school and local newspapers, and other historical sources, Miller-Bernal paints a picture of what life was like for women students at these four institutions While each institution gets to "star" in its own chapter, the author also makes comparisons between the institutions throughout the book The first part of the book presents a chronological account of the role of women at each institution Miller-Bernal focuses on the attitudes of founders, presidents, trustees, community members, and faculty members, as well as on the students' experiences As such, the reader gets a sense of campus life at each institution in its fullest sense–looking at the curricular as well as cocurricular components of the campuses

What is clear from these histories is that the nature of women's education, regardless of institutional type, is a reflection of the historical era in which it occurs For example, one sees the curriculum at Wells College, the women-only institution, begin as a finishing school and eventually take on the persona of today's more feminist oriented women's colleges This transition was neither simple nor orderly Further, at the former men's college turned coeducational institution, Middlebury, one sees the hostility toward women students at war with the financial necessity of admitting them At the coordinate institution, Hobart and William Smith, one sees again the hostility expressed by male students, trustees, faculty, and alumni at having to admit women, which led to the decision to keep them at arm's length The relationship between Kirkland and Hamilton was similarly dysfunctional—with the former being formed as a "younger sibling" to the latter and then being overtaken in the 1960s These histories are compellingly written and really allow one to imagine what life would be like as a woman student at each place throughout their existence

One of the strengths of this book is that it utilizes multiple methodologies to make its case about women's education As just described, the first section presents in-depth histories of the four institutions based on secondary and primary sources gleaned from the institutional archives of the four sites The second section of the book begins with a review of some of the published literature on the impact of women's colleges and the reasons "for" and "against" their continued existence Following this review is the presentation of Miller-Bernal's own longitudinal study of women students enrolled at her four institutions from 1985 to 1988 These data are mainly the result of surveys, administered every four years, and interviews with selected juniors from each institution, and they parallel the historical analyses and the literature review data in presenting a case for the importance of single-sex education

Because one of the common critiques of the research on women's colleges is that such studies fail to control for the self-selection of their students, it must be noted that Miller-Bernal does not do this either Indeed, unless researchers are in a position to randomly assign students to attend either a coeducational college or a single-sex institution, which they can't do, this dilemma of self-selection will never get addressed in a way that fully satisfies the critics Nonetheless, Miller-Bernal makes a convincing argument that this is not the problem that critics claim it to be by comparing not only the selectivity of the institutions in her study, but also the social class backgrounds of her subjects Based on her cases, the coeducational institutions are both more selective and attract a student body from a higher socioeconomic level than do the women's college and the coordinate institution As a result, Miller-Bernal's analysis comes as close to addressing the issue of self-selection as possible

It should be noted that the second part of the book, though presenting some very interesting data, does not have the same impact on the reader as the first part Indeed, we learn that students at Wells College, and to a lesser extent at William Smith, benefit from their single-sex educational experiences in a way that women at the two coeducational colleges do not, but the presentation of the data was a little difficult to digest This is, in part, because the author presents them in great detail with numerous tables and descriptive statistics This is exacerbated by Miller-Bernal's decision to present the data descriptively, which leaves the reader to sort through the variables one at a time, rather than utilizing more complex multivariate methods Though academics or scholars conducting research in the field may like the detailed treatment, administrators may wish to skim some of these chapters and jump to the concluding sections

Despite the data presentation in the second part of the book, the underlying message is compelling and adds greatly to our knowledge about the outcomes associated with attending either a single-sex or coeducational college Further, I commend Miller-Bernal for looking at the aspects of women's colleges that can be transferred to coeducational institutions Specifically, she recommends that coeducational institutions create women's centers, demonstrate an institutional commitment to monitoring and rectifying inequities, consider the representation of women among faculty, administrators and trustees, recognize the symbolic representation of women by celebrating women's achievements, and provide training for college personnel to recognize factors that lead to a "chilly climate" It is these types of recommendations that expand the potential audience for a book like this

In thinking about the best audience for this book, I believe it would be a great addition to a syllabus for a history of higher education class or for a class on gender issues in higher education It is also a must read for anyone interested in whether women's colleges still are a necessity today In fact, reading this book made me think about a recent experience I had as an invitee to a conference in Seoul, Korea As Ehwa Women's University in Korea, the largest women's university in the world, celebrated its 114-year history of providing women with enhanced educational opportunities, it also sponsored a conference titled "A Learning Community with Feminist Values" This conference brought together scholars from around the world who have an interest in the fate of women's colleges The purpose of the conference was to explore the future of women's colleges in Korea It seems that women's colleges in Korea are at a crossroads not unlike that experienced by U S women's colleges in the 1960s and 1970s Currently, of the 154 four-year colleges and universities in Korea, only 7 are women's colleges Several of these women's institutions are considering becoming coeducational The growing number of women currently enrolling in Korean colleges and universities express a clear preference for coeducation As a result, places like Ehwa find themselves needing to identify a unique niche and purpose in order to justify their continued existence Though not the intended audience, places such as Ehwa can learn much from Miller-Bernal's book, as can administrators of both coeducational and single-sex colleges in the United States

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